EFFECTIVENESS OF MULTIMEDIA EDUCATIONAL PACKAGE ON KNOWLEDGE AND ATTITUDE REGARDING PRECONCEPTION CARE AMONG WOMEN AT SELECTED INDUSTRIES, KANYAKUMARI DISTRICT

DISSERTATION SUBMITTED TO

THE TAMIL NADU DR. M.G.R.MEDICAL UNIVERSITY

CHENNAI

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LIST OF ABBREVIATIONS

ICCR	–	International Centre for Collaborative Research
IERB	–	Institutional Ethics Review Board
LBW	–	Low Birth Weight
NFHS	–	National Family Health Survey
SD	–	Standard Deviation
STP	–	Structured Teaching Programme
WHO	–	World Health Organization

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ABSTRACT

"Effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari District".

Aim and objective: To assess the effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women. **Methdology**: A quasi-experimental non-equivalent control group design was chosen to assess the level of knowledge and attitude conducted at Kannan Export Industries,Kanyakumari District, 100 women who satisfy the inclusion criteria were selected as samples using purposive sampling technique,Multimedia Educational Package was administered .The pre and post test level of knowldge and attitude was assessed using structured knowledge questionnaire and modified 4 point likert scale respectively.**Results**: The findings of the study revealed that pre and post test level of knowledge and attitude in experimental group was t = 19.689 , t = 9.895 and in control group t=1.243, t=1.000 which was significant at p < 0.001 level in experimental group. The findings revealed that there was a high statistically significant difference in the level of knowledge and attitude regarding preconception care among women in experimental group**.** The correlation of the post test mean knowledge score with attitude score in experimental group, showed (r=0.36) a fair positive correlation. **Conclusion:** The result showed that there was a significant improvement in the knowledge and attitude after administration of Multimedia Educational Package regarding preconception care among women.

Keywords: *Multimedia Educational Package, preconception care**,** prenatal care*

INTRODUCTION

Reproductive health is recognised as one of the significant components of family welfare. Health of both mother and child is of public health concern. Healthy mothers are important for families, communities and countries. A combination of ill health and social factors lowers the quality of life of women. Ensuring safe and healthy pregnancy is the challenge awaiting our society in the new millennium.

A woman in reproductive age plays an important role in determining the health of future population, because their health has an intergenerational effect. Despite of modernization of antenatal care in the worldwide, the incidence of adverse pregnancy outcomes is 25-30 percent.

In India more than 60 percent of the pregnancies are unplanned and hence many women may be engaged in behaviours that have deleterious effects on the developing fetus. Organogenesis which occurs between 17-56 days post conception is a time when most of the fetal organs develop and many of the women may be unaware of their pregnancy. As they are unaware they may be involved in the faulty habits and lose the

opportunity to modify the behaviours that would negatively impact her pregnancy. Pregnancy outcomes can be improved by 70 percent if the pregnancies are planned so it is important to take preventive action as early as possible, preferably in preconception period.

Preconception care is described as “any intervention provided to women and couples of child bearing age, regardless of pregnancy status or desire, before pregnancy, to improve health outcomes for women, newborns and children”.

Objective

To assess the effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women.

METHODOLOGY

Research Design: Quasi experimental non equivalent control group design.

Variables **:** Independent variable – Multimedia Educational Package
Dependent Variables – knowledge and attitude regarding preconception care.

Setting **:** Kannan Export Industries, Kanyakumari District.

Samples **:** Women who satisfy the inclusion criteria were the samples for the study by using purposive sampling technique.

Intervention **:** Multimedia Educational Package regarding preconception care which includes concepts of preconception care, screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious diseases.

Measurements and tool

The pre and post test level of knowledge was assessed using structured knowledge questionnaire and the attitude was assessed using modified 4 point likert scale.

RESULTS

The findings of the study revealed that pre and post test level of knowledge and attitude in experimental group was t = 19.689, t = 9.895 and in control group it was t = 1.243, t = 1.000, which was significant at $p < 0.001$ level in experimental group. The findings revealed that there was a high statistically significant difference in the level of knowledge and attitude regarding preconception care among women in experimental group.

While correlating the post test level of knowledge with attitude in experimental group, it showed (r=0.36) a fair positive correlation. The findings of the study revealed that there was a significant relationship of knowledge with attitude in the experimental group.

The analysis also revealed that there was a significant association of previous source of information with the mean differed knowledge score at $p < 0.01$ level and religion with mean differed attitude score at $p < 0.01$ level

CONCLUSION

There was a significant improvement of knowledge and favourable attitude after administration of Multimedia Educational Package. Thus Multimedia Educational Package was an effective education tool in improving knowledge and creating favourable attitude regarding preconception care among women.

IMPLICATIONS

The midwives have a vital role to work with women to build their knowledge, understanding and informed decision-making in relation to preconception care. The curriculum should add various practical programmes to make the student more aware about the importance of preconception care. The nurse administrator should collaborate with governing bodies to create policies, mobilize resources and create coalition with nongovernmental organizations in order to create awareness on preconception care among women. The nurse administrator should conduct in-service program and continuing education programme on utilization of health care services and its impact on women.

CHAPTER-1
Introduction

INTRODUCTION

Reproductive health is recognized as one of the significant components of family welfare. Health of both mother and child is of public health concern. Healthy mothers are important for families, communities and countries. A combination of ill health and social factors lowers the quality of life of women. Ensuring safe and healthy pregnancy is the challenge awaiting our society in the new millennium (**Engender Health, 2010).**

Reproductive health is a crucial part of general health and a central feature of human development. Reproductive health awareness is an approach designed to help women to observe their own bodies, understand its normal changes, and know what is healthy and typical for them. It helps women to think and also to understand the factors that influence their reproductive health.

A woman in reproductive age plays an important role in determining the health of future population, because their health has an intergenerational effect. Despite of modernization of antenatal care in the worldwide, the incidence of adverse pregnancy outcomes is 25-30 percent.

In recent years the idea of preconception care has become a source of improving the health status of women in reproductive age. Any intervention provided to women and couples of child bearing age, regardless of pregnancy status or desire, before pregnancy, to improve health outcomes for women, newborns and children is termed as preconception care.

Preconception care focuses not only on the physical preparation for pregnancy and parenting, but also on the social, psychological, and spiritual elements. Positive and realistic attitudes about pregnancy and parenting, which are formed at an early age, are fine-tuned throughout life.

In India more than 60 percent of the pregnancies are unplanned and hence many women may be engaged in behaviors that have deleterious effects on the developing fetus. Organogenesis which occurs between 17-56 days post conception is a time when most of the fetal organs develop and many of the women may be unaware of their pregnancy. As they are

unaware they may be involved in the faulty habits and lose the opportunity to modify the behaviors that would negatively impact her pregnancy. Pregnancy outcomes can be improved by 70 percent if the pregnancies are planned, so it is important to take preventive action as early as possible, preferably in preconception period.

In developing countries, complications of pregnancy and childbirth are the leading causes of death among women of reproductive age mainly due to lack of preconception care and prenatal care. The cumulative impact of the low health situation of women is reflected in the high maternal mortality rate.

Preconception care makes a positive difference to the health of the mother and the child. The concept of preconception care has emerged as a potentially vital tool for not only improving women's chances of having healthy pregnancies and newborns, but of supporting their reproductive health status over time. More and more evidence points to the fact that the way the child were nourished and grew in mother's womb have an important impact on the health as an adult.

Thus the preconception care simultaneously promotes reproductive planning and interventions to reduce the risk, allowing women to enter pregnancy in the best possible chance of giving birth to a healthy newborn.

1.1 BACKGROUND OF THE STUDY

More than two decades, prenatal care has been a cornerstone of our nation's strategy for improving pregnancy outcomes. In recent years, however, a growing recognition of the limits of prenatal care and the importance of maternal health before pregnancy has drawn increasing attention to preconception and interconception care.

Women aged between 19-21 years account for more than one- fifth of the world's population. In India, this age group form 21.4 percent of the total population. Half of the world's population is under 25years of age. About 1.8 billion are aged 10-25 years, and about 85% live in the developing world. Most people become sexually active before their 20th birthday. 13 million births occur for girls younger than 20 years of age. Approximately 90% of the births occur in developing countries. **(UNICEF, 2011).**

About 16 million women aged between 19-21 years give birth each year. Babies born to these women account for approximately 11% of all births worldwide- with 95% of such births occurring in developing countries **(WHO, 2013)**

In 11 South East Asian countries, about 37 million childbirths occur every year of which there are 1, 70,000 maternal and 1.3 million neonatal deaths. The maternal and neonatal deaths can be prevented and managed by cost effective maternal and neonatal health services (**WHO, 2011).**

Globally maternal mortality is 200 per 100,000 live births annually. In India more than 100,000 women die from pregnancy related causes such as pre term birth, still birth, low birth weight baby etc every year, more than anywhere else in the world. If the current trend persists, India will not be able to achieve the Millennium Development Goal of reducing mortality by three quarters by 2015(**WHO, 2010).**

Preconception care has the potential to positively impact 208 million pregnancies worldwide each year. Many women in low and middle income countries which have the highest burden of maternal and childhood mortality do not receive the benefits of preconception care, either because they lack access to care or because it is not routinely offered to them before pregnancy **(WORLD BANK, 2012).**

National Family Health Survey (NFHS) found that 37 percent of all pregnant women in India have not received preconception care and leads to adverse pregnancy outcomes among them half were illiterates **(WOMEN'S HEALTH, 2011).**

Preconception care is an organized and comprehensive program of health care that identifies and reduces reproductive risk of women before conception through risk assessment, health promotion and intervention. Thus Midwives are in a key position to teach and advice about the importance of preconception care.

The main focus of this study was to educate the women regarding preconception care in order to enhance their knowledge and create a positive attitude as they are the future mothers of the society. Knowledge imparted to the women create favourable attitude towards preconception care and reduces the perinatal complications.

1.2 SIGNIFICANCE AND NEED FOR THE STUDY

Preconception care envisage a continuum of healthy women, healthy mothers and healthy children; and promotes reproductive health for couples. Every women of reproductive age who is capable of becoming pregnant is a candidate for preconception care, regardless of whether she is planning to conceive. It is to identify and modify biomedical, behavioral and social risks through preventive and management interventions.

Majority of women who become pregnant do not seek prenatal care and advice until the middle of the first trimester. By that time, organogenesis is well advanced and it may have been affected by the client's life style, both healthy and unhealthy. Knowledge of preconception care has the potential for changing behaviour, modifying risks and improving the health status of potential parents. The target for preconception advice should be all individuals of reproductive age, particularly who are contemplating in the near future and young school children.

The prevention should be started before the occurrence. Knowledge regarding preconception care should be given to the young instead of married women so that they can have plenty of time to prepare their body and mind for the conception.

Castalia et al., (2013) conducted a cohort study to explore knowledge of general and personal preconception health risks among 300 women in Maharashtra. Knowledge questionnaire was used to compare the pre test and post test. The study concluded that women in the intervention cohort experienced a significant increase in knowledge related to preconception health, including recognition of the importance of folic acid supplementation, screening genetic disorders, seeking medical care for chronic conditions, immunization and review of medication in the preconception period.

Varalakshmi (2010) conducted an experimental study on 'effectiveness of planned teaching programme on knowledge regarding selected area of safe motherhood among the female second year pre university students, at Udupi' (n=30). Among the six areas of safe motherhood, one was about preconceptional health. Findings showed that gain in knowledge was comparatively less and the researcher concluded that there is much scope for improving knowledge in the area of preconceptional health.

Weerd et al., (2011) conducted a quantitative study among 102 women to describe nutritional intake and lifestyle factors in women planning pregnancy in Nagpur. Method of data collection was questionnaire and telephone interview. The result revealed that the percentage of women planning pregnancy with intakes below recommended dietary allowances was 74% for iron, 59% for selenium, 48% for Vitamin A and 91% for copper. 96% and 20% of them reported alcohol use and smoking, respectively and concluded that nutritional intake of women in the preconception period appears to be inadequate. Efforts to increase awareness of a healthy diet and lifestyle before and throughout pregnancy should be continued.

Kevan, Allison (2013) conducted a case study to highlight the future role of reproductive life planning and preconception care. Peer reviewed journal articles and clinical practice guidelines pertaining to preconception care were used to review data. The study concluded that because of the high rate of unintended pregnancy, preconception care should be incorporated into routine primary care for women of reproductive age.

Anju (2010) conducted a quasi experimental study to assess the effectiveness of planned teaching programme on knowledge and attitude regarding preconception care among women at Bangalore. The study revealed that 78.6% had adequate level of knowledge. Thus the study concluded that the planned teaching programme was effective in improving the knowledge of women regarding preconception care.

Effective preconception care involves a broad variety of partners, including men, health care providers, youth leaders and community volunteers; and delivery sites such as schools, primary health care facilities, industries and community centres. Outreach and awareness must begin in women if it is to truly improve the health of women and newborns and reduces the rate of mortality. If tackled, however, with vigorous and evidence based interventions, preconception care offers the earliest opportunity to reduce risk, allowing women to enter pregnancy in the best possible health and to have the greatest chance of giving birth to a healthy baby.

The investigator during her clinical experience found that women in rural areas were much less likely to receive preconception care than women in urban areas. Most women who did not receive health care before pregnancy thought that it was unnecessary. The universal

access to knowledge on preconception care among women remains limited. This created an uncontrollable urge within the researcher to provide compassionate health care information for women in rural areas on preconception care. And this study is an effort towards creating awareness among women which they require to act proactively to prevent themselves from future complications.

1.3 STATEMENT OF THE PROBLEM

A quasi-experimental study to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari district.

1.4 OBJECTIVES

1. To assess and compare the pre and post test level of knowledge and attitude regarding preconception care among women in experimental and control group.
2. To assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care.
3. To correlate the post test level of knowledge with attitude regarding preconception care among women in experimental and control group.
4. To associate the selected demographic variables with the mean differed level of knowledge and attitude regarding preconception care among women in experimental and control group.

1.5 OPERATIONAL DEFINITION

1.5.1 Effectiveness

It refers to the outcome of multimedia educational package on knowledge and attitude regarding preconception care among women, which was assessed by structured knowledge questionnaire and modified 4 point likert scale devised by the investigator

1.5.2 Multimedia educational package

It refers to the compact disc prepared by the investigator using the advanced technologies of the audio visual media to provide information regarding preconception care which includes concepts of preconception care, screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious diseases to the women at selected industries.

1.5.3 Knowledge

It refers to the ability of the women to respond to the questions regarding preconception care which was assessed by a structured knowledge questionnaire prepared by the investigator.

1.5.4 Attitude

It refers to the perception of the women regarding preconception care which was assessed by using modified 4 point likert scale developed by the investigator.

1.5.5 Preconception care

It refers to the set of preventive and promotive interventions which includes concepts of preconception care, screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious disease given to mother prior to conception for a healthy mother and a healthy newborn.

1.5.6 Women

It refers to the unmarried girls aged between 19-21 years who is working in Kannan export industries at Kanyakumari District.

1.6 ASSUMPTIONS

1. Women may have some knowledge and attitude regarding preconception care.
2. Multimedia educational package may enhance the knowledge of women regarding preconception care.
3. Enhanced knowledge may create a positive attitude towards preconception care.

1.7 NULL HYPOTHESES

NH_1: There is no significant difference between the pre and post test level of knowledge and attitude regarding preconception care among women between experimental and control group at the level of $p<0.05$

NH_2: There is no significant relationship between the post test level of knowledge with attitude regarding preconception care among women in experimental and control group at the level of $p<0.05$

NH_3: There is no significant association of selected demographic variables with the mean differed level of knowledge and attitude regarding preconception care among women in experimental and control group at the level of $p<0.05$

1.8 DELIMITATION

The study was delimited to a period of 4 weeks.

1.9 CONCEPTUAL FRAMEWORK

A conceptual framework or model is made up of concepts, which are the mental images of the phenomena. A conceptual framework provides the guidelines to attain the objectives of the study based on the theory. It is the schematic representation of activities, steps and action of the study. A conceptual framework is used in research to outline the possible course of action to present a preferred approach to an idea or thought.

The Investigator adopted **Imogene King's goal attainment theory**, as a basis for conceptual framework, which was aimed to assess the effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women.

According to this theory, two people come together to help or to be helped to maintain a state of health where they communicate information, establish goals, and take action to attain goals. This framework consists of six major concepts that describe the phenomena:

1. **PERCEPTION**: Refers to personal representation of reality. It gives meaning to one's experience and represents one's image of reality and influences one's behaviour. Here the investigator perceives that women have lack knowledge and unfavourable attitude on preconception care. The women in turn perceive the need to gain more knowledge and attitude on preconception care.

2. **JUDGEMENT**: Individuals come together for a purpose; each person makes a judgement, takes mental or physical action, and reacts to the other individual and the situation. The investigator judges that MULTIMEDIA EDUCATIONAL PACKAGE can enhance knowledge on preconception care among women. The women judge that utilization of Multimedia Educational Package will enhance their knowledge and attitude on preconception care.

3. **ACTION**: Individual transfers the perceived energy as demonstrated by observable behaviour by performing mental and physical action. Investigator implements the Multimedia Educational Package in order to enhance knowledge and create favourable attitude on preconception care. The women were willing and ready to gain knowledge and enhance attitude by actively participating in the study.

4. **REACTION**: The investigator and the women set mutual goals. Reaction refers to the development of action and acting on perceived choices for goal attainment. The mutual goal setting was done with a belief that Multimedia Educational Package will enhance the knowledge and attitude on preconception care. Here the investigator conducts a pretest on preconception care by using structured knowledge questionnaire and modified 4 point likert scale.

5. **INTERACTION**: Refers to an interaction with different set of values, ideas, attitudes, perceptions to exchange. Here the investigator interacts with women by administering multimedia educational package that includes concepts of preconception care, screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious disease to the women in experimental group followed by posttest by using the same questionnaire in both experimental and control group.

6. **TRANSACTION**: Refers to mutually identified goals of two or more individuals and the means to achieve them. At this stage the investigator analyses the level of knowledge and attitude of the women in pre and posttest regarding preconception care among women.

7. **FEEDBACK:** For **positive outcome** – i.e., adequate knowledge, moderately adequate knowledge and favourable attitude, moderately favourable attitude on preconception care requires further enhancement.

   For **negative outcome** – i.e., inadequate knowledge and unfavourable attitude on preconception care need to be reinforced for further learning.

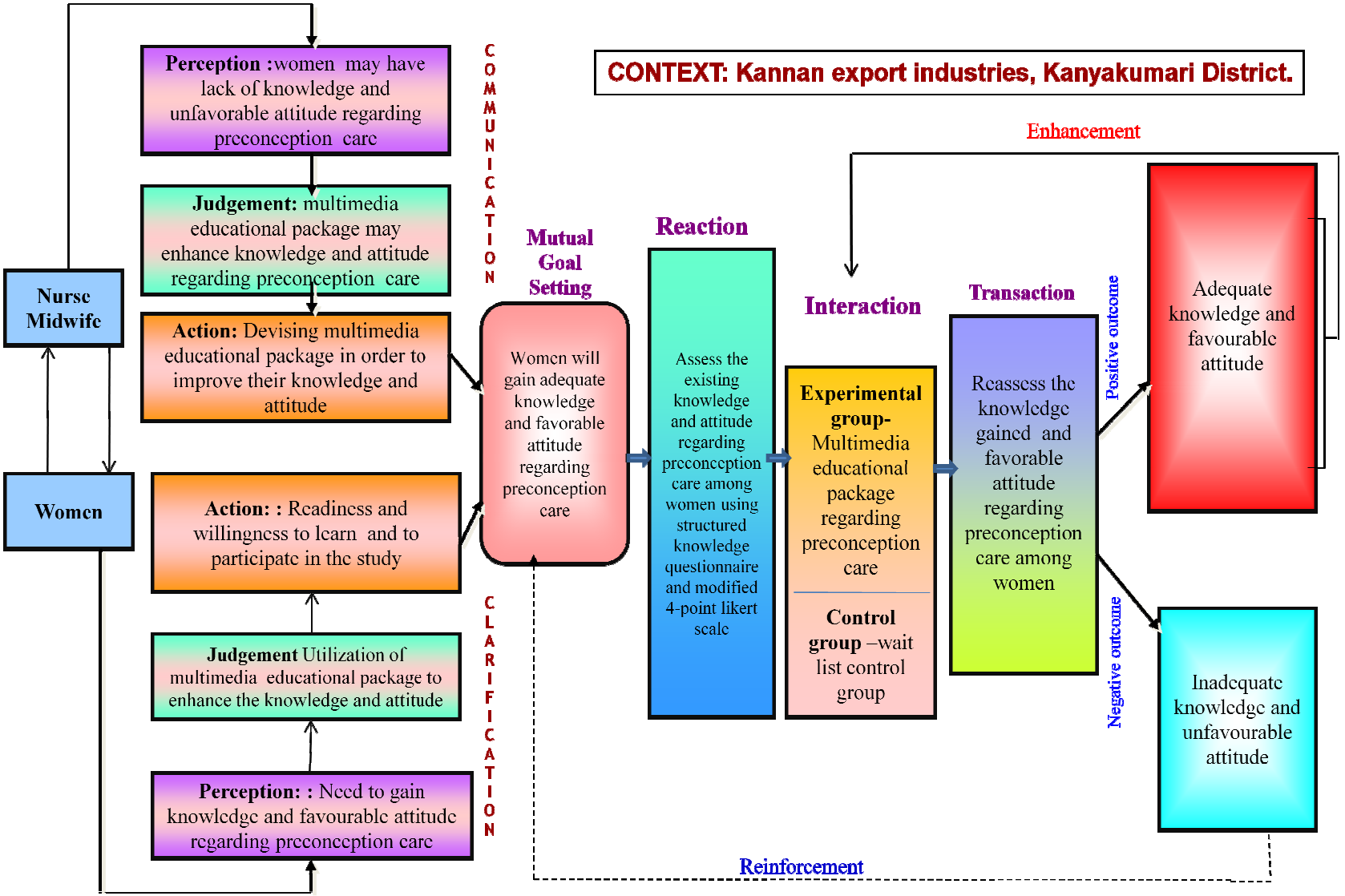


FIG 1.9.1:CONCEPTUAL FRAME WORK BASED ON IMOGENE KING'S GOAL ATTAINMENT MODEL

1.10 OUTLINE OF THE REPORT

Chapter 1 **:** Dealt with introduction, background of the study, need for the study, statement of the problem, objectives, operational definitions, assumptions, null hypotheses, delimitation and conceptual framework.

Chapter 2 **:** Contains the scientific review of literature related to the present study.

Chapter 3 **:** Presents the methodology of the study and plan for data analysis.

Chapter 4 **:** Focuses on data analysis and interpretation.

Chapter 5 **:** Enumerates the discussion and findings of the study.

Chapter 6 **:** Consist of summary, conclusion, implications, recommendations and limitations of the study.

The study report ends with selected References and Appendices.

CHAPTER-2

Review of Literature

REVIEW OF LITERATURE

Review of literature is a systematic search of a published work to gain information about a research topic. Through the literature review, researcher generates a picture of what is known about a particular situation and the knowledge gap that exists between the problem statement and the research plan.

The literature review was based on an extensive survey of books, journals, and international nursing studies. The investigator intended to review the literature available regarding preconception care among women using both research and non – research materials.

This chapter deals with a broad view of related literature and studies in the following sections.

SECTION 2.1: Scientific reviews related to importance of preconception care for women.

SECTION 2.2: Scientific reviews related to knowledge and attitude of women regarding preconception care.

SECTION 2.3: Scientific reviews related to effectiveness of educational package.

SECTION 2.1: SCIENTIFIC REVIEWS RELATED TO IMPORTANCE OF PRECONCEPTION CARE FOR WOMEN

Shannon et al., (2013) conducted a cross sectional study among 300 women in Cambridge with the aim to evaluate the impact of preconception care with congenital disorders. The study revealed that 8-15% reduction in annual notification of congenital disorders. The study concluded that preconception care programme potentially reduce the number of infants born with congenital disorders.

Boukje et al., (2012) conducted a qualitative study among 16 women in Netherland with the aim to explore the perception of preconception counseling. In –depth, semi- structured face-to – face interview was conducted. The interviewed women expressed a positive attitude towards preconception care in general but were hesitant about seeking further information.

Wickremsinghe et al., (2011) conducted a cross sectional descriptive survey among 225 women in Colombo to study the preconceptional preparedness. The findings showed that 21% had received pre pregnancy counseling; only 6.6% had taken preconceptional folic acid supplementation and concluded that preconceptional preparedness among these women is poor and this should be encouraged by means of awareness campaign.

Graham et al., (2011) conducted a cohort study among 256 women in Mississippi aimed to identify factors contributing to high rates of preterm birth (PTB), low birth weight (LBW) and infant mortality. Women with hypertension were about 2.2 and 3.2 times as likely to have PTB and LBW, respectively. Hydramnios/oligohydramnios increased 1.8-4.4 folds of risk for PTB, LBW and infant death was significantly associated with the unfavorable birth outcomes. Certain maternal medical conditions may be contributing to PTB, LBW and infant mortality rates identifying preconception and prenatal healthcare as possible strategies for reducing unfavorable outcomes was encouraged.

Chuang et al., (2010) conducted a cohort study among 847 samples in Central Pennsylvania with the aim of determining the preconception health behaviors and the impact of pregnancy outcomes. The study revealed that by multivariable analyses, there were no associations between intention for future pregnancy and maintaining healthy behavior or improving behavior and the study concluded that the importance of nutrition, folic acid supplementation, physical activity, avoiding binge drinking, not smoking, and avoiding vaginal douching in the preconception period needs to be emphasized by health care providers and policy makers.

Guptha et al., (2010) conducted a descriptive study among 236 women in Cameroon to evaluate the need for preconception care and the level of consumer awareness. Results showed that 36.4% of pregnancies had unfavourable outcomes, 20.3% had difficulties in getting pregnant and 29.7% had carried unwanted pregnancies. The study concluded that there is an urgent need for the implementation of preconception care among women.

Jack (2010) conducted a randomized trial study among 170 women in Calcutta to address the preconception risks. An average of 8.96 risks was identified per woman. The study explains that preconception care program has the potential to assist women who want to become pregnant by advising about risk factors, healthy lifestyles, and assessing readiness of pregnancy.

Elsinga et al., (2008) conducted an experimental study among 422 women in Uttar Pradesh with the aim to assess the effect of preconception counseling on lifestyle and other behavior. A questionnaire on knowledge about pregnancy-related risk factors and preventive measures were given. The study revealed that knowledge of women who received preconception counseling (81.5%) exceeded that of women who did not (76.9%). After preconception counseling, significantly more women started using folic acid before pregnancy and reduced alcohol use during the first 3 months of pregnancy. The study concluded that they gained greater knowledge before pregnancy and more women changed their behavior to reduce adverse pregnancy outcomes.

Brien et al., (2008) conducted a meta-analysis with 14 cohort studies, major congenital malformations were assessed among 1192 offspring of mothers who had received preconception care, and 1459 offspring of women who had not regarding the effect of preconceptional care and the risk of congenital anomalies in the offspring of women with diabetes mellitus. The study result revealed that, in nine studies- the risk for major and minor anomalies was lower among women who received preconception care and concluded that the pooled rate of major anomalies was lower among preconception care recipients (2.1%) than non-recipients (6.5%).

Bratt et al., (2008) conducted an experimental study among 186 women in Tamilnadu on preconception care, a screening tool for health assessment and risk detection. A preconceptional health assessment form with risk variables pertaining to social, nutritional, infectious disease, medication, reproductive and family history were completed. Researchers concluded that the questionnaires are an accurate screening tool for preconceptional risk factors and their implementation in various settings will facilitate provision of preconception care.

Posner et al., (2008) conducted an experimental study among 193 women of reproductive age group in Mangalore to identify the risk factors as a main component of preconception care .The risk factors identified were nutritional deficiency, medical problems, infectious disease, medication and family history related to genetic disease. The study concluded the need for preconception care among women in reproductive age group.

SECTION 2.2: SCIENTIFIC REVIEWS RELATED TO KNOWLEDGE AND ATTITUDE OF WOMEN REGARDING PRECONCEPTION CARE.

Sapiano et al., (2012) conducted an experimental study among 37 Maltese women of reproductive age at Malta with the aim to assess the level of knowledge and awareness related to preconception care .The study revealed that before the intervention, 26(70%) participants claimed they did not have any knowledge about the preconception care of diabetes. The response rate was 70% (26 out of 37 participants completed the questionnaire after the educational intervention). Six of the participants who initially reported no preconception care knowledge claimed an increased awareness after the event. There was a statistically significant increase in the knowledge scores after the intervention. The study concluded that there is a lack of awareness of the importance of pre-pregnancy planning to avoid pregnancy-related complications like diabetes

Nast et al., (2012) conducted a cross sectional study among 600 women selected from multistage cluster sampling procedure in Lebanon with the aim to assess the awareness and actual intake of folic acid. The study concluded that sixty percent had heard about folic acid. The level of folic acid awareness and adequate intake remain relatively low. Several approaches

should be used to promote folic acid intake including awareness campaigns, and routine counseling by primary health care physicians on folic acid during preconception visits.

Keith et al., (2011) conducted a survey study among 499 women in Arizona to evaluate the women knowledge level and beliefs about preconception healthcare. The results indicated that all women in the study (98.6%) realized the importance of optimizing their health prior to a pregnancy, only 39% could ever recall their physician discussing preconception health. The majority of the women in this study population who were interested in preconception health education preferred the information prior to a pregnancy (74.8%) or at the time of their annual medical exam (11.9%).

Harelick et al., (2011) conducted a survey among 340 women in USA with the aim of assessing knowledge and behaviors regarding preconception care. Questions focused on health behaviors and conditions, knowledge of risk factors, and recommendations of health care providers. Outcomes include the prevalence of risk factors and correlations between the presence of a risk factor and either a respondent's knowledge or a health care provider's recommendation. The study concluded that Innovative programs and support systems are required to encourage women to adopt healthy behaviors throughout the childbearing years.

Coonrod et al., (2009) conducted a cross sectional survey among 305 reproductive age women in USA with the aim to determine knowledge and attitude regarding preconception care. The study findings revealed that eighty-nine percent agreed that improving preconception health benefits pregnancy. Seventy-seven percent expressed some interest in preconception health care. The average knowledge of preconception care score was 76% and concluded that there was interest in preconception education and agreement that preconception health has a positive effect on pregnancy

SECTION 2.3: SCIENTIFIC REVIEWS RELATED TO EFFECTIVENESS OF EDUCATIONAL PACKAGE.

Holmes et al., (2012) conducted an experimental study among 97 women to assess the effectiveness of DVD on knowledge and attitude regarding preconception care. Beliefs and attitudes associated with preventing an unplanned pregnancy and seeking preconception care were assessed using a validated questionnaire. Knowledge of pregnancy planning and pregnancy-related risks was assessed by a 22-item questionnaire. The study revealed that after the DVD there was significant positive change in women's perceived benefits and their personal attitudes receiving preconception care. Knowledge of pregnancy planning and pregnancy-related risks increased significantly after viewing the DVD. The mean increase was 37.6. This study demonstrated the effectiveness of a DVD in increasing knowledge and enhancing attitudes of women on preconception care

Divya (2011) conducted an experimental study among 80 college students in Mangalore to assess the effectiveness of structured teaching program on knowledge and attitude on preconception care. Simple random sampling was used. The mean increase was 42.6. The study demonstrates the effectiveness of structured teaching program in improving knowledge and enhancing attitudes of women on preconception care.

Trupti (2011) conducted an experimental study to assess the effectiveness of nurse intervention module on knowledge regarding preconception care among 186 women at Belgaum. Non probability purposive sampling technique was used. The study findings revealed that 87% had inadequate knowledge and concluded that the module shows a significant improvement in knowledge on preconception care.

Shanmugasundaram (2010) conducted an experimental study among 80 women who were randomly selected in a selected rural area, Chennai, India to evaluate the effectiveness of structured teaching programme on preconception care. Among them 40 samples were allocated for experimental group and remaining 40 samples for the control group. The overall knowledge mean value in experimental design was 48.69 with the standard deviation of 17.41 where as in the control group the mean value was only 5.36 with the standard deviation of 11.94. After

structured teaching programme the paired ‘t’ value was 17.69 with the p<0.001 which is highly significant and thus concluded that there is an improvement in knowledge on preconception care among women. There is an association of level of knowledge with that of age and education of women.

Merlin (2009) conducted an experimental study among 60 women in Erode to assess the effectiveness of planned teaching programme regarding preconception care. Samples were selected using purposive sampling technique. A structured interview was conducted. Significant difference was seen in the pretest mean score value 44.10 and post test mean score value 58.89 and obtained ‘t’ value was 10.79. This indicates that structured teaching programme was effective in improving the knowledge of women regarding preconception care among women.

Steny (2009) conducted an experimental study to assess the effectiveness of structured teaching programme on preconception care among women at Hassan. Non probability sampling method was used. The study revealed that the mean pretest score of the experimental group on knowledge was 42.85 and of the control group was 34.09. The mean of experimental group after administration of the structured teaching program 87.23 and of the control group with conventional teaching method 35.68 was statistically significant (p<0.001).

Swarnalatha et al., (2008) conducted an experimental study among 220 women in Tumkur to evaluate the effectiveness of planned teaching programme. Non probability purposive sampling technique was used. Findings of the study indicated that in experimental group, the mean posttest knowledge score (61.17) is higher than the mean posttest knowledge score of (16.13) of control group with ‘t’ value 33.01 at P>0.001 level of significance and concluded that planned teaching programme was effective in improving the knowledge of women regarding preconception care.

Dhital et al., (2008) conducted an experimental study among 200 women in Nepal to assess the effectiveness of structured teaching program on knowledge and attitude on preconception care. The study revealed that the mean (±SD) pretest score of the experimental group on knowledge was 39.83 (± 16.89) and of the control group was 39.47(±0.08). The mean

of experimental group after administration of the structured teaching program (84.60±10.60) and of the control group with conventional teaching method (43.93±10.08) was statistically significant ($p<0.001$) concluded that the use of structured teaching program is effective in improving knowledge and attitude regarding preconception care.

Lincy (2008) conducted an experimental study among women at Mangalore to assess the effectiveness of planned teaching programme. A structured close ended questionnaire was prepared to determine the knowledge. The study revealed that the level of existing knowledge of respondents showed that 95% had average level of knowledge, 1.67% had poor level of knowledge, and only 3.33% had good knowledge and concluded that the planned teaching programme was very effective in improving knowledge on different aspects of preconception care.

CHAPTER-3
Research Methodology

RESEARCH METHODOLOGY

This chapter describes the Methodology adopted in this study to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari District.

This phase of the study included selecting a research design, variables, setting of the study, population, sample, criteria for sample selection, sample size, sampling technique, development and description of the tool, content validity, pilot study, reliability of the tool, procedure for data collection and plan for data analysis.

3.1 RESEARCH APPROACH

The research approach used in this study was Quantitative research approach.

3.2 RESEARCH DESIGN

The research design used for this study was quasi experimental nonequivalent control group design. Here the investigator selected quasi experimental control group design, since the aim of the study was to assess the knowledge and attitude of women between 19-21 years and the accessible population was limited, randomization was not possible. Based on **Polit and Hungler (2011)** the framework for the study was:

GROUP	PRE TEST (O_1)	INTERVENTION (X)	POST TEST (O_2) At the end of 7th day
Experimental	Pre test level of knowledge and attitude regarding preconception care which was assessed using structured knowledge questionnaire and modified 4 point likert scale respectively.	Multimedia Educational Package regarding preconception care which includes concepts of preconception care, screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious disease (**on the same day of pre test)**	Post test level of knowledge and attitude regarding preconception care which was assessed using structured knowledge questionnaire and modified 4 point likert scale respectively.
Control	Pre test level of knowledge and attitude regarding preconception care which was assessed using structured knowledge questionnaire and modified 4 point likert scale respectively.	For ethical purpose intervention was given after post test was completed.	Post test level of knowledge and attitude regarding preconception care which was assessed using structured knowledge questionnaire and modified 4 point likert scale respectively.

3.3 VARIABLES

3.3.1 Independent Variable

The independent variable in the study was Multimedia Educational Package regarding preconception care.

3.3.2 Dependent Variables

The dependent variables in the study were knowledge and attitude regarding preconception care among women.

3.3.3 Extraneous Variables

The extraneous variables were age, education, religion, type of family, residential area, personal habits and previous source of information.

3.4 SETTING OF THE STUDY

The study was conducted at

1. Kannan export industries, Thickanamcode-420 employees are working among them 90 employees belongs to the age group of 19-21 years, which was considered as experimental group.
2. Kannan export industries, Munjirah-360 employees are working among them 80 employees belongs to the age group of 19-21 years, which was considered as control group

3.5 POPULATION

3.5.1 Target Population

The target population for the study included all women aged between 19-21 years.

3.5.2 Accessible Population

Accessible population for the study included all women aged between 19-21 years who were working in Kannan export industries in Thickanamcode and Munjirah at Kanyakumari District.

3.6 SAMPLE

Women who fulfilled the sample selection criteria were selected as samples for the study.

3.7 SAMPLE SIZE

A sample of 100 women who fulfilled the sample selection criteria were selected for the study.

Kannan export industries, Thickanamcode-50(experimental group)

Kannan export industries, Munjirah-50(control group)

3.8 SAMPLING TECHNIQUE

100 women (50 from each setting) were selected as study samples using non probability purposive sampling technique.

3.9 CRITERIA FOR SAMPLE SELECTION

3.9.1 Inclusion Criteria

1. Women who were between the age group of 19-21 years.
2. Women who can understand Tamil.
3. Women who are willing to participate in the study.

3.9.2 Exclusion Criteria

1. Women who are married and have children.
2. Women who have already attended any preconception care education classses.
3. Women who were differently abled
4. Women who were not available during data collection period

3.10 DEVELOPMENT AND DESCRIPTION OF TOOL

After an extensive review of literature, discussion with the experts and with the investigator's personal and professional experience, a structured knowledge questionnaire was developed to assess the knowledge and a modified 4 point likert scale to assess attitude regarding preconception care among women.

The tool constructed in this study was divided into 2 parts.

3.10.1 PART A: DATA COLLECTION TOOL

This consisted of 3 Sections

Section A: Demographic Variables

Consisted of demographic variables which included age, education, religion, type of family, residential area, personal habits and previous source of information.

Section B: **Tool to assess the level of knowledge regarding preconception care.**

This section consisted of structured knowledge questionnaire to assess the knowledge regarding preconception care among women.

Components of knowledge questionnaire

ITEMS	NUMBER OF QUESTIONS
Concepts of preconception care	5
Screen for genetic disorders and medical illness	7
Life style modification	6
Immunization	1
Screen for infectious diseases	6
TOTAL	**25**

Scoring Key

Each item was objective type and closed ended with a single correct answer. Every correct answer was given a score of "1'' mark and wrong answer was given "0''mark. The total score of the item was 25. The raw score was converted to percentage to interpret the level of knowledge.

The level of knowledge was categorized as:

Score	Level of knowledge
<50%	Inadequate knowledge
50-75%	Moderately adequate knowledge
>75%	Adequate knowledge

Section C: Tool to assess the level of attitude regarding preconception care

It consisted of Modified 4 point Likert Scale to assess the attitude of women regarding preconception care.

Scoring Key

S.No.	Item	Strongly agree	Agree	Disagree	Strongly disagree
1.	Positive statement	4	3	2	1
2.	Negative statement	1	2	3	4

It consisted of 12 items and the minimum score was 1 and the maximum score was 4. The total score was 48. The raw score was converted to percentage to interpret the level of attitude.

The level of attitude was categorized as:

SCORE	LEVEL OF ATTITUDE
<50%	Unfavourable attitude
50-75%	Moderately favourable attitude
>75%	Highly favourable attitude

3.10.2 PART B: Intervention tool regarding preconception care

The intervention tool consisted of multimedia educational package prepared by the investigator regarding preconception care which includes concepts of preconception care, Screen for genetic disorders and medical illness, life style modification, immunization, screen for infectious disease.

3.11 CONTENT VALIDITY

The content validity of the data collection and intervention tool was ascertained from the expert's opinion in the following field of expertise.

Obstetrics and Gynecologist– 2

Nursing experts – 4

Modifications were made as per the experts' suggestions and incorporated in the tool. Experts suggested to maintain pair matching in selection of samples to maintain homogeneity, however as the setting were nonequivalent the homogeneity in age, education, type of family, habits, previous source of information were maintained.

3.12. ETHICAL CONSIDERATION

Ethics is a system of moral values that is concerned with the degree to which the research procedures adhere to the professional, legal and social obligations to the study participants.

The research study was approved by **Institutional Ethics Review Board** (**IERB**) held on December-2012 by **International Centre for Collaborative Research (ICCR),** Omayal Achi College of Nursing.

The ethical principles followed in the study were,

(A) BENEFICIENCE

The investigator followed the fundamental ethical principle of beneficence (doing well) by adhering to

a) The right to freedom from harm and discomfort

The study will be beneficial for the participants as it enhances their knowledge and creates a favourable attitude regarding preconception care.

b) The right to protection from exploitation

The investigator explained the procedure and nature of the study to the participants and ensured that none of the participants in both experimental group and control group would be exploited or denied fair treatment.

(B) RESPECT FOR HUMAN DIGNITY

The investigator followed the second ethical principle of respect for human dignity. It includes the right to self-determination and the right to self -disclosure.

a) The Right to Self-determination.

The investigator gave full freedom to the participants to decide voluntarily whether to participate in the study or to withdraw from the study and the right to ask questions.

b) **The Right to Full Disclosure.**

The researcher has fully described the nature of the study, the person's right to refuse participation and the researcher's responsibilities based on which both oral and written informed consent was obtained from the participants.

(C) JUSTICE

The researcher adhered to the third ethical principle of justice, it includes participant's right to fair treatment and right to privacy.

a) Right to Fair Treatment

The researcher selected the study participants based on the research requirements.

b) Right to Privacy.

The researcher maintained the participant's privacy throughout the study.

(D) CONFIDENTIALITY

The researcher maintained confidentiality of the data provided by the study participants.

3.13 RELIABILITY OF THE TOOL

The reliability for knowledge questionnaire was established by test-retest method, where 5 women were selected and structured knowledge questionnaire was administered to the same subjects. The reliability score was 'r'= 0.84, which shows positive correlation, indicates that the tool was reliable.

The reliability for attitude scale was established by split half method. The reliability score was 'r'=0.88, which shows positive correlation. This indicated that the tool was reliable for the researcher to continue with the main study.

3.14 PILOT STUDY

The pilot study is a trial run, done in preparation for the main study. The pilot study was planned and conducted after a formal research proposal presentation approval by the ethical committee, ICCR and the faculty of Omayal Achi College of nursing. It was conducted in the month of February for a period of 1 week from 18.02.13 to 23.02.13 at Beeku export industries, after getting formal permission letter from the Principal, Omayal Achi College of Nursing and the Manager from Beeku export industries.

The investigator conducted the pilot study by selecting 20 women who fulfilled the sample selection criteria by purposive sampling technique.

The investigator gave brief introduction about self and the purpose of the study to the women. They were made to sit comfortably in a well ventilated room and confidentiality regarding the data was assured to win their co-operation during data collection. After obtaining verbal and written informed consent for willingness to participate in the study, data collection was carried out by using structured knowledge Questionnaire to assess the knowledge and Modified 4 point likert scale to assess the attitude of the women. Pretest was conducted for both experimental and control group and they took 20-25 minutes.

The experimental group was taken to the multipurpose hall and the investigator administered multimedia educational package regarding preconception care for 20-25 minutes.

Post test was done after 7 days to assess the knowledge and attitude regarding preconception care among women using the same tool. The result of the pilot study revealed the feasibility and practicability of the study after which the plan for actual study was made.

3.15 PROCEDURE FOR DATA COLLECTION

The investigator obtained permission from the International Centre for Collaborative Research (ICCR) and ethical committee approval to conduct the main study.A formal permission was obtained from the Principal, Omayal Achi College of Nursing and the Manager of Kannan Export Industries.

The investigator gave brief introduction about self and the purpose of the study to the women. After obtaining their verbal and written informed consent for willingness to participate in the study, the women were made to sit comfortably in a well-ventilated room. Data collection was carried out separately by using strutured knowledge questionnaire schedule to assess the knowledge and modified 4 point likert scale to assess the attitude regarding preconception care.

The investigator conducted the pretest in control group with 50 samples together gathered in the common hall and strutured knowldege questionnaire and modified 4 point likert scale was administered. They took around 20-25 minutes to complete the questionnaire and modified 4 point likert scale. Control group was assured that the investigator would clear their doubts after the post test. Post test was conducted after 7 days.

The investigator conducted pre test in experimental group in another setting with 50 samples together and strutured knowldege questionnaire and modified 4 point likert scale was given. Confidentiality regarding the data was assured.the same day multimedia educational package was given to the experimental group for 20-25 minutes; the doubts of the women regarding preconception care were clarified. As planned earlier the investigator conducted the post test after 7 days, for the women using the same tool by following the same procedure. Towards the end of the data collection period the multimedia educational package was given for the control group participants regarding preconception care. The manager was requested to play the multimedia educational package in a weekly basis during tea time as reinforcement.

3.16. PLAN FOR DATA ANALYSIS

Data collected was analysed by using both descriptive and inferential statistics.

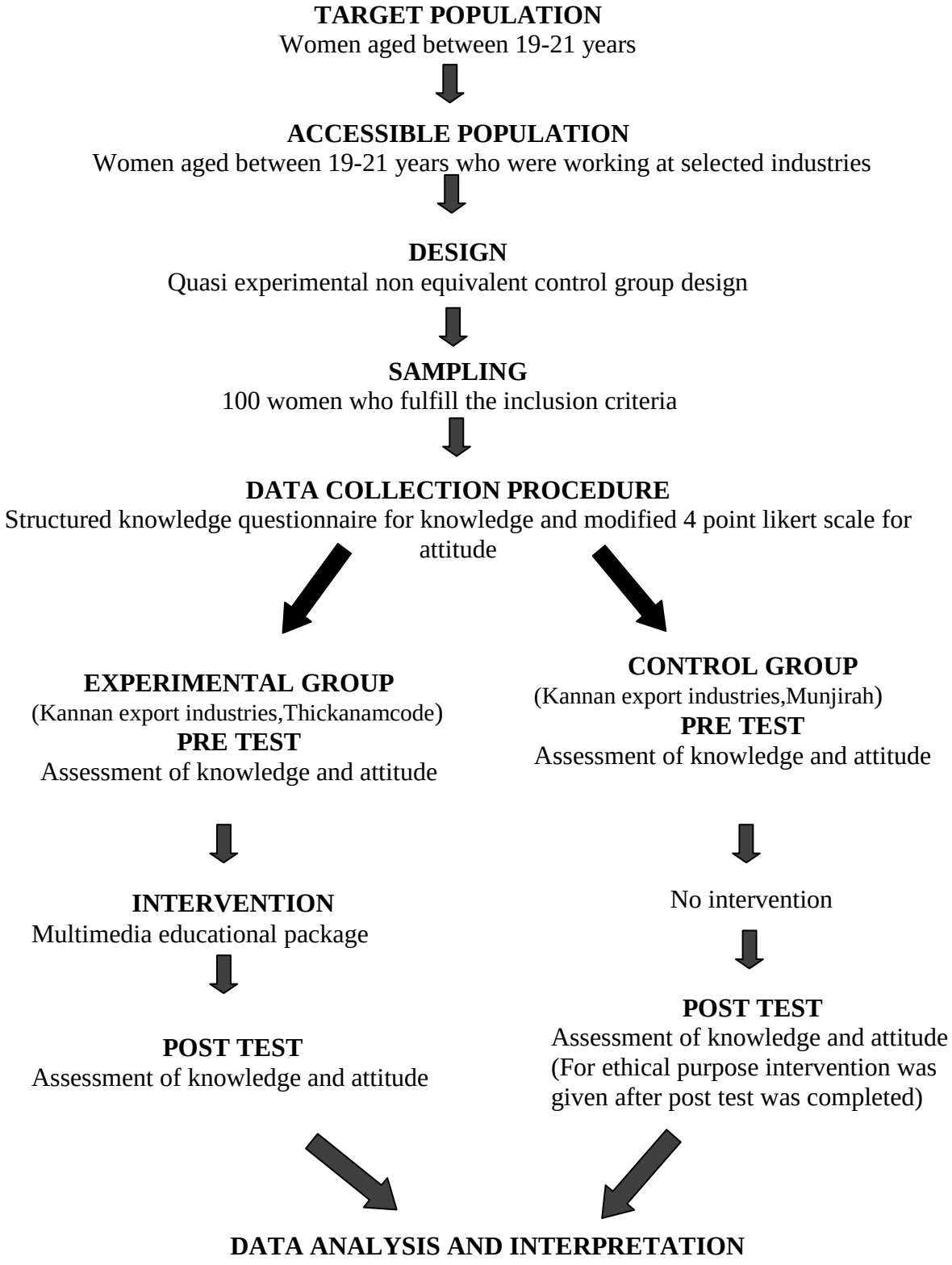
3.16.1 Descriptive Statistics

1. Frequency and percentage distribution was used to analyze demographic variables of women.
2. Mean and standard deviation was used to assess the pre and post test level of knowledge and attitude among women in experimental and control group.

3.16.2 Inferential Statistics

1. Paired and Unpaired t-test was used to assess the comparison of pre and post test level of knowledge and attitude regarding preconception care among women within and between experimental and control group.
2. Correlation coefficient was used to correlate the post test level of knowledge with attitude regarding preconception care among women.
3. ANOVA was used to find out the association of selected demographic variables with the mean differed knowledge score and attitude score among women.

SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY



CHAPTER-4

Data Analysis and Interpretation

ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected from 100 women at selected industries to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care.

The data was organised, tabulated and analysed according to the objectives of the study. The findings based on the descriptive and inferential statistics are presented under the following sections.

ORGANISATION OF DATA

SECTION 4.1: Description of the demographic variables of women in experimental and control group.

SECTION 4.2: Assessment of pre and post test level of knowledge and attitude regarding preconception care among women in the experimental and control group

SECTION 4.3: Comparison of the pre and post test level of knowledge and attitude regarding preconception care among women in experimental and control group**.**

SECTION 4.4: Correlation of the post test level of knowledge with attitude regarding preconception care among women in experimental and control group**.**

SECTION 4.5: Association of selected demographic variables with the mean differed knowledge score and attitude score regarding preconception care among women in experimental and control group**.**

SECTION 4.1: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF WOMEN IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.1.1 : Frequency and percentage distribution of demographic variables with respect to age, education, religion, type of family and area of residence.

N=100

S.No.	Demographic Variables	Experimental Group N=50		Control Group N=50	
		No.	%	No.	%
1.	**Age**				
	19 years	15	30	15	30
	20 years	13	26	13	26
	21 years	**22**	**44**	**22**	**44**
2.	**Education**				
	Illiterate	11	22	11	22
	Primary education	**25**	**50**	**25**	**50**
	High school education	14	28	14	28
	Higher secondary education	-	-	-	-
	Graduate	**-**	**-**	**-**	**-**
3.	**Religion**				
	Hindu	**41**	**82**	**40**	**80**
	Muslim	-	-	-	-
	Christian	9	18	10	20
	Others	-	-	-	-
4.	**Type of family**				
	Nuclear family	**33**	**66**	**33**	**66**
	Joint family	17	34	17	34
	Extended family	-	-	-	-
5.	**Area of residence**				
	Rural	**49**	**98**	**50**	**100**
	Urban	1	2	-	-

Table 4.1.1 shows the frequency and percentage distribution of demographic variables with respect to age, education, religion, type of family and area of residence.

With regard to age 22 (44%) were 21 years, 25(50%) were educated upto primary education in both experimental and control group, 41(82%) in experimental group and 40(80%) in control group belongs to Hindu religion, 33(66%) were from nuclear family in both experimental and control group, 49(98%) in experimental group and 50(100%) in control group were from rural area.

Table 4.1.2: Frequency and percentage distribution of demographic variables of women with respect to habits, previous knowledge and source of information

N=100

S.No.	Demographic Variables	Experimental Group N=50		Control Group N=50	
		No	**%**	**No**	**%**
1.	**Habits**				
	Smoking	-	-	-	-
	Alcohol	-	-	-	-
	Betel leaves chewing	-	-	-	-
	None	**50**	**100**	**50**	**100**
2.	**Previous knowledge**				
	Yes	10	20	10	20
	No	**40**	**80**	**40**	**80**
3.	**If yes, source of information**				
	Friends	**8**	**80**	4	40
	Massmedia	2	20	**6**	**60**
	Nursing professionals	-	-	-	-
	Parents	-	-	-	-

Table 4.1.2 shows the frequency and percentage distribution of demographic variables with respect to habits, previous knowledge and source of information.

With regard to habits, all of them, 50(100%) did not have any bad habits, 40(80%) did not receive information regarding preconception care in both experimental and control group.

SECTION 4.2: ASSESSMENT OF PRE AND POSTTEST LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING PRECONCEPTION CARE AMONG WOMEN IN THE EXPERIMENTAL AND CONTROL GROUP.

Table 4.2.1 : Frequency and percentage distribution of pretest level of knowledge regarding preconception care among women in the experimental group.

N=50

Pretest Knowledge	Inadequate (<50%)		Moderately Adequate (50 – 75%)		Adequate (>75%)	
	No.	%	No.	%	No.	%
Concepts of preconception care	41	82	5	10	4	8
Screen for Genetic disorders and medical illness	43	86	5	10	2	4
Life style modification	38	76	11	22	1	2
Immunization	34	68	0	0	16	32
Screen for infectious diseases	33	66	14	28	3	6

Table 4.2.1 shows the frequency and percentage distribution of pretest level of knowledge regarding preconception care among women in the experimental group.

With regard to pre test level of knowledge, 41(82%) had inadequate knowledge in concepts of preconception care, 43(86%) had inadequate knowledge regarding screen for genetic disorders and medical illness, regarding life style modification, immunization and screen for infectious diseases, 38(76%), 34 (68%), 33(66%) respectively had inadequate knowledge .

Table 4.2.2: Frequency and percentage distribution of pretest level of knowledge regarding preconception care among women in the control group.

N=50

Knowledge	Inadequate (<50%)		Moderately Adequate (50 – 75%)		Adequate (>75%)	
	No.	%	No.	%	No.	%
Concepts of preconception care	31	62	8	16	11	22
Screen for Genetic disorders and medical illness	35	70	7	14	8	16
Life style modification	36	72	4	8	10	20
Immunization	39	78	0	0	11	22
Screen for infectious diseases	26	52	22	44	2	4

Table 4.2.2 shows the frequency and percentage distribution of pretest level of knowledge regarding preconception care among women in the control group.

With regard to pre test level of knowledge, 31(62%) had inadequate knowledge in concepts of preconception care, 35(70%) had inadequate knowledge regarding screen for genetic disorders and medical illness, regarding life style modification, immunization and screen for infectious diseases, 36(72%), 39(78%), 26(52%) respectively had inadequate knowledge .

N=100

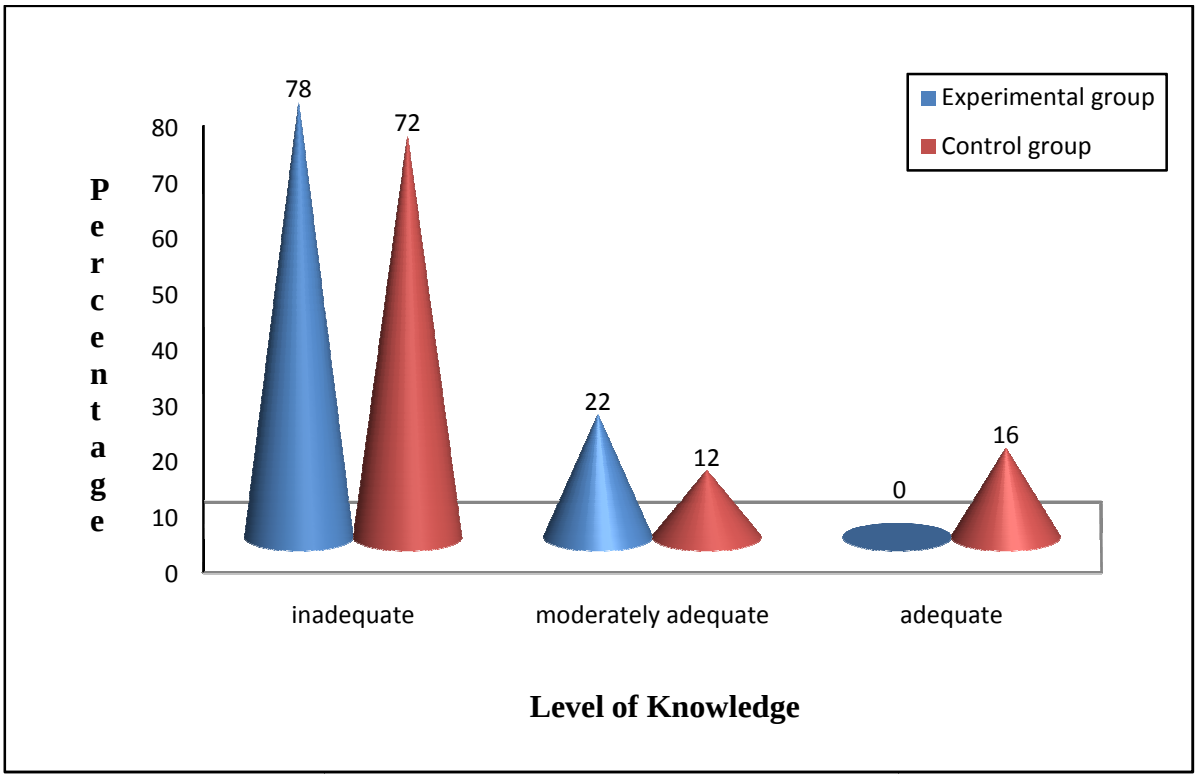


Fig.4.2.1: Percentage distribution of the overall pretest level of knowledge regarding preconception care among women in the experimental and control group.

The above picture on overall pre test level of knowledge reveals that 39(78%) had inadequate level of knowledge and 11(22%) had moderately adequate level of knowledge regarding preconception care in the experimental group and in the control group 36(72%) had inadequate level of knowledge, 6(12%) had moderately adequate level of knowledge, 8(16%) had adequate level of knowledge regarding preconception care.

N=100

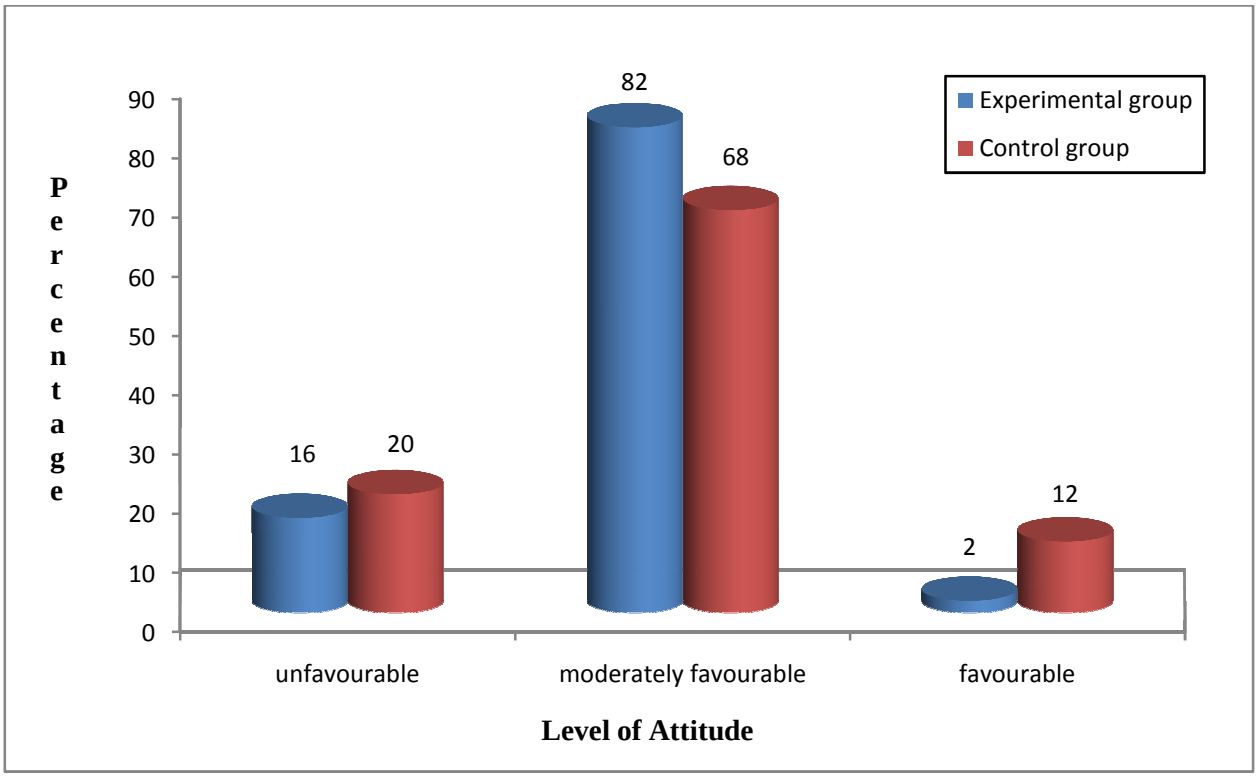


Fig.4.2.2: Percentage distribution of pre test level of attitude regarding preconception care among women in experimental and control group

The above pre test level of attitude reveals that majority 41(82%) in the experimental group and 34(68%) in control group had a moderately favourable attitude regarding preconception care.

Table 4.2.3: Frequency and percentage distribution of post test level of knowledge regarding preconception care among women in the experimental group.

N=50

Knowledge	Inadequate (<50%)		Moderately Adequate (50 – 75%)		Adequate (>75%)	
	No.	%	No.	%	No.	%
Concepts of preconception care	1	2	5	10	44	88
Screen for Genetic disorders and medical illness	0	0	15	30	35	70
Life style modification	2	4	7	14	41	82
Immunization	7	14	0	0	43	86
Screen for infectious diseases	3	6	20	40	27	54

Table 4.2.3 shows the frequency and percentage distribution of post test level of knowledge regarding preconception care among women in the experimental group.

With regard to post test level of knowledge, 44(88%) had adequate knowledge in concepts of preconception care, 35(70%) had adequate knowledge regarding screen for genetic disorders and medical illness, regarding life style modification, immunization and screen for infectious diseases, 41(82%), 43(86%), 27(54%) respectively had adequate knowledge .

Table 4.2.4: Frequency and percentage distribution of posttest level of knowledge regarding preconception care among women in the control group.

N=50

Knowledge	Inadequate (<50%)		Moderately Adequate (50 – 75%)		Adequate (>75%)	
	No.	%	No.	%	No.	%
Concepts of preconception care	32	64	8	16	10	20
Screen for Genetic disorders and medical illness	35	70	7	14	8	16
Life style modification	37	74	5	10	8	16
Immunization	39	78	0	0	11	22
Screen for infectious diseases	26	52	22	44	2	4

Table 4.2.4 shows the frequency and percentage distribution of post test level of knowledge regarding preconception care among women in the control group.

With regard to post test level of knowledge, 32(64%) had inadequate knowledge in concepts of preconception care, 35(70%) had inadequate knowledge regarding screen for genetic disorders and medical illness, regarding life style modification, immunization and screen for infectious diseases, 37(74%), 39(78%), 26(52%) respectively had inadequate knowledge .

N=100

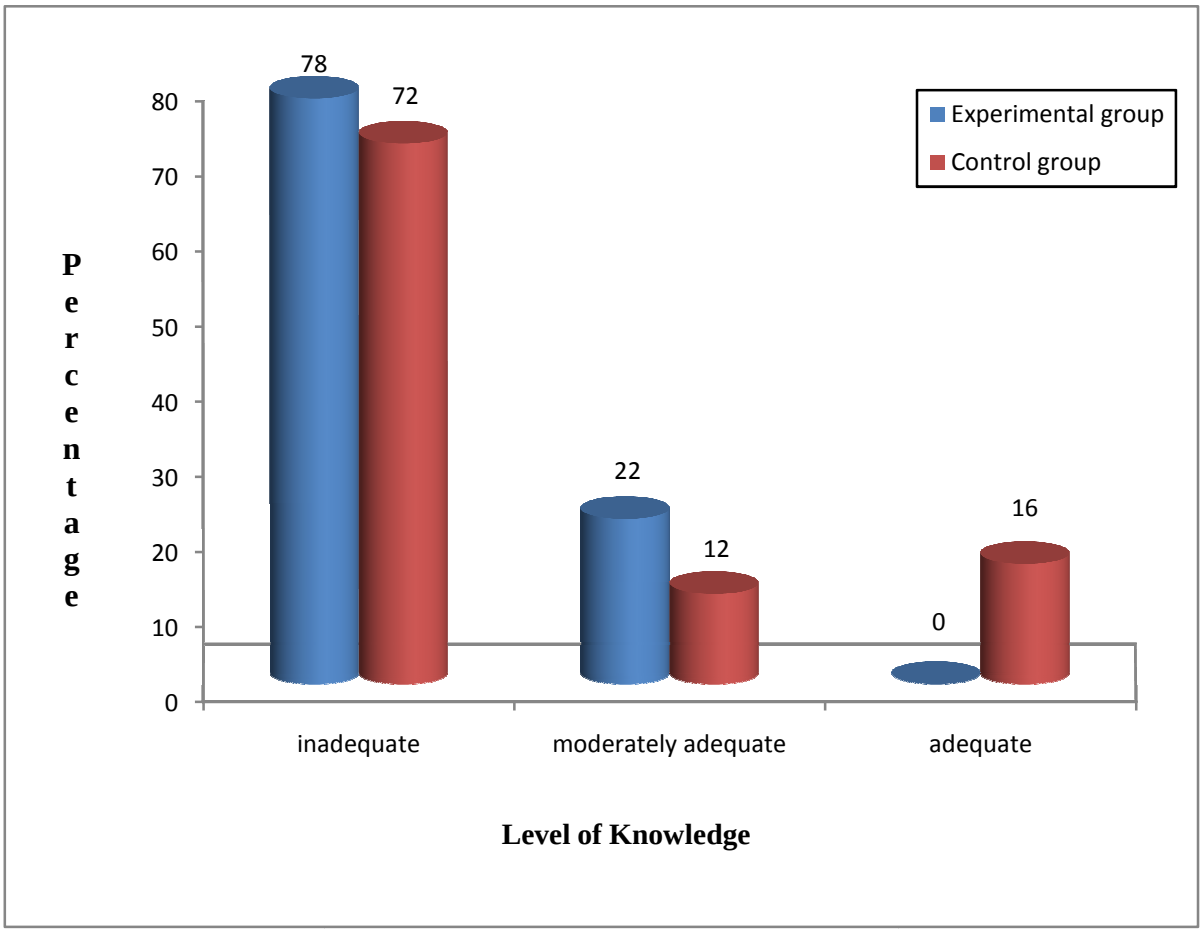


Fig.4.2.3: Percentage distribution of the overall posttest level of knowledge regarding preconception care among women in the experimental and control group.

The above overall post test level of knowledge reveals that majority of the women 43(86%) had adequate level of knowledge and 7(14%) had moderately adequate level of knowledge regarding preconception care in the experimental group and in the control group 37(74%) had inadequate level of knowledge, 6(12%) had moderately adequate level of knowledge, 7(14%) had adequate level of knowledge regarding preconception care

N=100

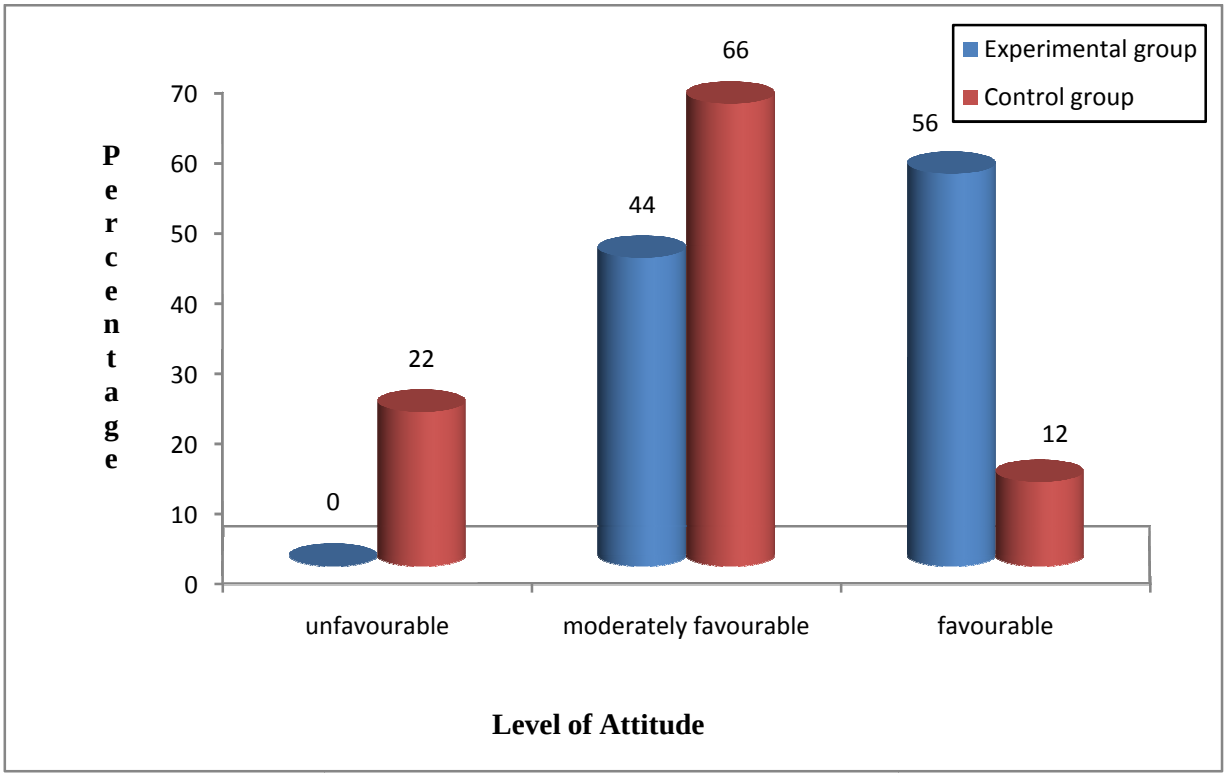


Fig.4.2.4: Percentage distribution of post test level of attitude regarding preconception care among women in experimental and control group

The above post test level of attitude reveals that 28(56%) had favourable attitude in the experimental group, whereas in control group 33(66%) women had moderately favourable attitude regarding preconception care

The table 4.2.1 to 4.2.4, fig.4.2.1 to 4.2.4 reveals that the administration of multimedia educational package regarding preconception care among women had significantly improved their level of knowledge and attitude in experimental group, proving that this intervention was very effective.

SECTION 4.3: COMPARISON OF PRE AND POSTTEST LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING PRECONCEPTION CARE AMONG WOMEN IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.3.1 : Comparison of pre and post test level of knowledge regarding preconception care among women in experimental and control group.

N=100

Group	Pretest		posttest		Paired 't' value
	Mean	S.D	Mean	S.D	
Experimental group	8.10	4.28	20.68	2.32	t = 19.689*** p = 0.001 (S)
Control group	9.40	6.45	9.22	6.27	t = 1.243 p = 0.220 (NS)

***p< 0.001, S – Significant, NS-Not significant

Table 4.3.1 shows the comparison of pre and post test level of knowledge regarding preconception care among women in experimental and control group**.**

When comparing the pre and post test level of knowledge in experimental group, the pre test mean value was 8.10 with the standard deviation of 4.28, and post test mean value was 20.68 with the standard deviation of 2.32. The calculated ‘t’ value was 19.689, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level

When comparing the pre and posttest level of knowledge in control group, the pre test mean value was 9.40 with the standard deviation of 6.45, and the post test mean value was 9.22 with the standard deviation of 6.27 .The calculated ‘t’ value was 1.243, which was lesser than the table value and this indicated that there was statistically no significant difference between the pre and post test level knowledge in control group.

Table 4.3.2: Comparison of pre and post test level of attitude regarding preconception care among women in experimental and control group.

N=100

Group	Pretest		Posttest		Paired 't' value
	Mean	S.D	Mean	S.D	
Experimental group	28.14	4.84	37.34	5.85	t = 9.895*** p = 0.001 (S)
Control group	29.28	6.19	29.28	6.28	t = 1.000 p = 0.322 (NS)

***p< 0.001, S – Significant, NS-Not significant

Table 4.3.2 shows the comparison of pre and post test level of attitude regarding preconception care among women in experimental and control group**.**

When comparing the pre and post test level of attitude in experimental group, the pre test mean value was 28.14 with the standard deviation of 4.84, and the post test mean value was 37.34 with the standard deviation of 5.85. The calculated ‘t’ value was 9.895, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level.

When comparing the pre and post test level of attitude in control group, the pre test mean value was 29.38 with the standard deviation of 6.19, and the post test mean value was 29.28 with the standard deviation of 6.28. The calculated ‘t’ value was 1.000, which was lesser than the table value and this indicated that there was statistically no significant difference in the pre and post test level of attitude in control group

Table 4.3.3: Comparison of pre and post test level of knowledge regarding preconception care among women between experimental and control group

N = 100

Knowledge	Experimental Group		Control Group		Unpaired 't' value
	Mean	S.D	Mean	S.D	
Pretest	8.10	4.28	9.40	6.45	t = -1.187 p = 0.238 (NS)
Posttest	20.68	2.32	9.22	6.27	t = 12.123*** p = 0.001 (S)

***p < 0.001, S – Significant, NS – Not Significant

Table 4.3.3 shows the comparison of pre and post test level of knowledge regarding preconception care among women between experimental and control group.

When comparing the pre test level of knowledge, the experimental group mean value was 8.10 with the standard deviation 4.28 and the control group mean value was 9.40 with the standard deviation of 6.45. The calculated ‘t ‘ value was -1.187, which was lesser than the table value and this indicated that there was statistically no significant difference between experimental and control group.

When comparing the post test level of knowledge, the experimental group mean value was 20.68 with the standard deviation 2.32 and the control group mean value was 9.22 with the standard deviation of 6.27. The calculated ‘t ‘ value was 12.123, which was greater than the table value and this indicated that there was statistically high significant difference at p < 0.001 level.

The above findings revealed that there was significant improvement in the level of knowledge among women in experimental group than the control group. Hence the investigator concluded that the intervention package was effective in enhancing the knowledge of the women.

Table 4.3.4: Comparison of pre and post test level of attitude regarding preconception care among women between experimental and control group

N = 100

Attitude	Experimental Group		Control Group		Unpaired 't' value
	Mean	S.D	Mean	S.D	
Pre test	28.14	4.84	29.38	6.19	t = -1.115*** p = 0.268 S
Post test	37.34	5.85	29.28	6.28	t = 6.635*** p = 0.001 S

***P < 0.001, S –Significant

Table 4.3.4 shows the comparison of pre and posttest level of attitude regarding preconception care among women between experimental and control group.

When comparing the pre test level of attitude, the experimental group mean value was 28.14 with the standard deviation 4.84 and the control group mean value was 29.38 with the standard deviation of 6.19. The calculated ‘t ‘ value was -1.115, which was greater than the table value and this indicated that there was statistically high significant difference at p < 0.001 level.

When comparing the post test level of attitude, the experimental group mean value was 37.34 with the standard deviation 5.85 and the control group mean value was 29.28 with the standard deviation of 6.28.The calculated ‘t ‘ value was 6.635, which was greater than the table value and this indicated that there was statistically high significant difference at p < 0.001 level

The above findings revealed that there was significant improvement in the level of attitude among women in experimental group and in control group. Hence the investigator concluded that the knowledge increases, their attitude also changes regarding preconception care among women.

The table 4.3.1 to 4.3.4 revealed that there was statistically significant difference in the pre and post test level of knowledge in experimental group and no significant difference in control group. There was significant improvement in the level of attitude in experimental and in control group. Findings concluded that even though the knowledge lacks, their attitude level is high regarding preconception care.

SECTION 4.4: CORRELATION OF THE POST TEST LEVEL OF KNOWLEDGE WITH ATTITUDE REGARDING PRECONCEEPTION CARE AMONG WOMEN IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.4.1 : Correlation of the post test mean knowledge with attitude regarding preconception care among women in experimental group.

N=50

Post Test	Mean	S.D	'r' Value
Knowledge	12.58	4.52	r = 0.366***
Attitude	9.20	6.57	p = 0.009, (S)

***p< 0.001, S – Significant

Table 4.4.1 shows the correlation of the post test mean knowledge with attitude regarding preconception care among women in experimental group.

With regard to the level of knowledge in experimental group, the post test mean knowledge was 12.58 with the standard deviation of 4.52 and the post test mean attitude was 9.20 with the standard deviation of 6.57. The calculated 'r' value was 0.366 which shows a fair positive correlation of knowledge with attitude which was statistically significant at p< 0.001 level and it clearly indicates that when the knowledge increases their attitude also changes regarding preconception care among women

Table 4.4.2: Correlation of the post test mean knowledge with attitude regarding preconception care among women in control group

N=50

Post Test	Mean	S.D	'r' Value
Knowledge	0.180	1.02	r = -0.025
Attitude	0.100	0.71	p = 0.861, (NS)

NS – Not Significant

Table 4.4.2 shows the correlation of the post test mean knowledge with attitude regarding preconception care among women in experimental group.

With regard to level of knowledge in control group, the post test mean knowledge was 0.180 with the standard deviation of 1.02 and the post test mean attitude was 0.100 with the standard deviation of 0.71. The calculated 'r' value was -0.025 which shows a poor negative correlation of knowledge with attitude which was not statistically significant.

The table 4.4.1 to 4.4.2 proved that improving the knowledge of women through the multimedia educational package significantly improved the attitude of women. Thus, an improvement in the level of knowledge had a positive effect on the attitude regarding preconception care among women.

SECTION 4.5: ASSOCIATION OF SELECTED DEMOGRAPHIC VARIABLES WITH THE MEAN DIFFERED KNOWLEDGE SCORE AND ATTITUDE SCORE REGARDING PRECONCEPTION CARE AMONG WOMEN IN EXPERIMENTAL AND CONTROL GROUP.

Table 4.5.1 : Association of selected demographic variables with the mean differed knowledge score regarding preconception care among women in experimental group.

N=50

Demographic Variables	Pretest		Post Test		Mean Diff.		ANOVA
	Mean	S.D	Mean	S.D	Mean	S.D	
Age in years							F = 0.649 p = 0.527 (NS)
19	7.33	3.79	20.87	2.82	13.53	5.11	
20	7.31	4.05	20.08	1.75	12.77	3.85	
21	9.09	4.68	20.91	2.29	11.82	4.52	
If yes means							F = 2.608* p = 0.034 S
Friends	8.75	5.99	20.37	1.59	11.62	5.09	
Mass media	6.00	1.41	23.00	0.00	17.00	1.41	
Nursing professionals	-	-	-	-	-	-	
Parents	-	-	-	-	-	-	

*p<0.05, S-Significant, NS – Not Significant

Table 4.5.1 shows the association of selected demographic variables with the mean differed knowledge regarding preconception care among women in experimental group.

The demographic variable source of information shows statistically significant association with the mean differed knowledge score regarding preconception care among women in experimental group.

The other demographic variables did not have any significant association.

Table 4.5.2: Association of selected demographic variables with the mean differed attitude score regarding preconception care among women in experimental group.

N=50

Demographic Variables	Pretest		Post Test		Mean Diff.		ANOVA
	Mean	S.D	Mean	S.D	Mean	S.D	
Religion							F= 2.215* p = 0.042 (S)
Hindu	28.00	5.02	37.97	5.82	9.97	6.68	
Muslim	-	-	-	-	-	-	
Christian	28.78	4.12	34.44	5.34	5.67	4.92	
Others	-	-	-	-	-	-	

*p<0.05, S-Significant, NS – Not Significant

Table 4.5.2 shows the association of selected demographic variables with the mean differed attitude regarding preconception care among women in experimental group.

The demographic variable religion shows statistically significant association with the mean differed attitude score regarding preconception care among women in experimental group.

The other demographic variables did not have any significant association.

Table 4.5.3: Association of mean differed knowledge score regarding preconception care among women with selected demographic variables in control group.

N=50

Demographic Variables	Pretest		Post Test		Mean Diff.		ANOVA
	Mean	S.D	Mean	S.D	Mean	S.D	
Age in years							F = 1.688 p = 0.196 (NS)
19	7.62	5.51	7.06	4.51	0.56	1.79	
20	10.40	6.11	10.40	6.11	0.00	0.00	
21	10.17	7.14	10.17	7.14	0.00	0.00	
Previous knowledge							F= -0.871 p = 0.398 (NS)
Yes	8.27	5.96	7.80	5.19	0.47	1.81	
No	9.88	6.68	9.83	6.65	0.06	0.34	

NS – Not Significant

Table 4.5.3 shows the association of selected demographic variables with the mean differed knowledge score regarding preconception care among women in control group.

The demographic variables had shown statistically no significant association with the mean differed knowledge score regarding preconception care among women in control group.

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Table 4.5.4: Association of selected demographic variables with the mean differed attitude score regarding preconception care among women in control group.

N=50

Demographic Variables	Pretest		Post Test		Mean Diff.		ANOVA
	Mean	S.D	Mean	S.D	Mean	S.D	
Age in years							F = 2.089 p = 0.135 (NS)
19	29.31	6.51	29.31	6.51	0.00	0.00	
20	31.40	5.29	30.90	6.04	0.50	1.58	
21	28.58	6.38	28.58	6.38	0.00	0.00	
Type of family							F = -1.000 p = 0.327 (NS)
Nuclear family	29.69	5.49	29.50	5.71	0.19	0.98	
Joint family	29.04	6.97	29.04	6.97	0.00	0.00	
Extended family	-	-	-	-	-	-	

NS – Not Significant

Table 4.5.4 shows the association of selected demographic variables with the mean differed attitude score regarding preconception care among women in control group.

The demographic variables had shown statistically no significant association with the mean differed attitude score regarding preconception care among women in control group.

CHAPTER-5

Discussion

DISCUSSION

This chapter deals with the discussion on the findings of the study interpreted from the statistical analysis. The findings are discussed in relation to the objectives, need for the study, related literature, conceptual framework and null hypotheses specified in the study. It is presented in line with the objectives of the study.

Description of the demographic variables of women in experimental and control group

With regard to age 22(44%) were 21 years, 25(50%) were educated up to primary education in both experimental and control group, 41(82%) in experimental group and 40(80%) in control group belongs to Hindu religion, 33(66%) belongs to nuclear family in both experimental and control group,49(98%) in experimental group and 50(100%) in control group were from rural area, 50(100%) did not have any bad habits, 40(80%) did not receive information regarding preconception care in both experimental and control group.

5.1 The first objective was to assess and compare the pre and posttest level of knowledge and attitude regarding preconception care among women.

Fig 4.2.1 depicted the analysis of the pre test level of knowledge regarding preconception care among women in the experimental and control group. It revealed that 39(78%) had inadequate level of knowledge and 11(22%) had moderately adequate level of knowledge regarding preconception care in the experimental group and in the control group 36(72%) had inadequate level of knowledge, 6(12%) had moderately adequate level of knowledge, 8(16%) had adequate level of knowledge regarding preconception care.

Fig 4.2.3 showed the analysis of the post test level of knowledge regarding preconception care among women in the experimental and control group. It revealed that 43(86%) had adequate level of knowledge and 7(14%) had moderately adequate level of knowledge in the experimental group and in the control group 37(74%) had inadequate level of knowledge, 6(12%) had moderately adequate level of knowledge, 7(14%) had adequate level of knowledge regarding preconception care.

Fig.4.2.2 showed the analysis of pre test level of attitude regarding preconception care among women in the experimental group and control group 41(82%) had moderately favourable attitude in experimental group, whereas in control group, 34(68%) had moderately favourable attitude.

Fig.4.2.4 showed the analysis of post test level of attitude regarding preconception care among women in the experimental group and control group , 28(56%) had moderately favourable attitude in experimental group ,whereas in control group, 33(66%) had moderately favourable attitude.

The table 4.3.1 showed the analysis on comparison of pre and post test level of knowledge regarding preconception care among women in the experimental and control group. In experimental group the pre test mean was 8.10 with the standard deviation of 2.32, the post test mean was 20.68 with the standard deviation of 2.32. The calculated 't' value was 19.689 which was greater than the table value and this indicated that there was statistically high significant difference at $p<0.001$ level.

In the control group, pre test mean was 9.40 with the standard deviation of 6.45, the post test mean was 9.22 with the standard deviation of 6.27. The calculated 't' value was 1.243 which was lesser than the table value and this indicated that there was statistically no significant difference between the pre and post test level knowledge in control group.

The table 4.3.2 showed the analysis on comparison of pre and post test level of attitude regarding preconception care among women in the experimental and control group. In experimental group the pre test mean was 28.14 with the standard deviation of 4.84, the post test mean was 37.34 with the standard deviation of 5.85. The calculated 't' value was 9.895 which was greater than the table value and this indicated that there was statistically high significant difference at $p<0.001$ level.

In the control group, pre test mean was 29.38 and the standard deviation was 6.19, the post test mean was 29.28 and the standard deviation was 6.28. The calculated ‘t’ value was which was lesser than the table value and this indicated that there was statistically no significant difference at $p<0.001$ level.

These findings were consistent with the study conducted by **Coonrod et al., (2009)** among 305 reproductive age women in USA with the aim to determine knowledge and attitude regarding preconception care. The study findings revealed that eighty-nine percent agreed that improving preconception health benefits pregnancy. Seventy-seven percent expressed some interest in preconception health care. The average knowledge of preconception care score was 76% and concluded that there was interest in preconception education and agreement that preconception health has a positive effect on pregnancy.

These findings were consistent with the study conducted by **Nast et al., (2012)** among 600 women selected from multistage cluster sampling procedure in Lebanon with the aim to assess the awareness and actual intake of folic acid. The study concluded that sixty percent had heard about folic acid. The level of folic acid awareness and adequate intake remain relatively low. Several approaches should be used to promote folic acid intake including awareness campaigns, and routine counselling by health care personnels on folic acid during preconception visits.

These findings were consistent with the study conducted by **Harelick et al., (2011)** among 340 women in USA with the aim of assessing knowledge and behaviors regarding preconception care. Questions focused on health behaviors and conditions, knowledge of risk factors, and recommendations of health care providers. Outcomes include the prevalence of risk factors and correlations between the presence of a risk factor and either a respondent's knowledge or a health care provider's recommendation. The study concluded that Innovative programs and support systems are required to encourage women to adopt healthy behaviors throughout the childbearing years.

5.2 The second objective was to assess the effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women between experimental and control group.

The analysis in Table 4.3.3 showed the comparison of pre and post test level of knowledge regarding preconception care among women between the experimental and control group.

When comparing the pre test level of knowledge, the experimental group mean value was 8.10 with the standard deviation 4.28 and the control group mean value was 9.40 with the standard deviation of 6.45. The calculated ‘t ‘ value was -1.187, which was lesser than the table value and this indicated that there was statistically no significant difference between experimental and control group.

When comparing the post test level of knowledge, the experimental group mean value was 20.68 with the standard deviation 2.32 and the control group mean value was 9.22 with the standard deviation of 6.27. The calculated ‘t ‘value was 12.123, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level.

The analysis in Table 4.3.4 describes the comparison of pre and posttest level of attitude regarding preconception care among women between experimental and control group.

When comparing the pre test level of attitude, the experimental group mean value was 28.14 with the standard deviation of 4.84 and the control group mean value was 29.38 with the standard deviation of 6.19. The calculated ‘t ‘ value was -1.115, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level.

When comparing the post test level of attitude, the experimental group mean value was 37.34 with the standard deviation of 5.85 and the control group mean value was 29.28 with the standard deviation of 6.28.The calculated ‘t ‘value was 6.635, which

was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level.

The study concluded that the multimedia educational package had been very effective in improving the knowledge and creating favourable attitude regarding preconception care among women.

The findings were consistent with the study conducted by **Trupti(2011)** to assess the effectiveness of nurse intervention module on knowledge regarding preconception care among 186 women at Belgaum. Non probability purposive sampling technique was used. The study findings revealed that 87% had inadequate knowledge and concluded that the module shows a significant improvement in knowledge on preconception care.

The findings were consistent with the study conducted by **Steny (2009)** to assess the effectiveness of structured teaching programme on preconception care among women at Hassan. Non probability sampling method was used. The study revealed that the mean pretest score of the experimental group on knowledge was 42.85 and of the control group was 34.09. The mean of experimental group after administration of the structured teaching program 87.23 and of the control group with conventional teaching method 35.68 was statistically significant ($p<0.001$) and concluded that the structured teaching programme was effective in improving the knowledge.

The findings were consistent with the study conducted by **Swarnalatha et al., (2008)** to evaluate the effectiveness of planned teaching programme among women in Tumkur. Non probability purposive sampling technique was used. Findings of the study indicated that in experimental group, the mean posttest knowledge score (61.17) is higher than the mean posttest knowledge score of (16.13) of control group with 't' value 33.01P>0.001 level of significance and concluded that planned teaching programme is effective in improving the knowledge of women regarding preconception care.

The core concept of Imogene King's Theory of Goal Attainment was the basis for the conceptual framework in this study. The investigator perceived the need for imparting awareness on preconception care to the women and judged that multimedia educational package may enhance their knowledge and attitude and hence prepared a multimedia educational package regarding preconception care.

The women, who were the samples in this study, perceived the need to learn about preconception care through participation in the study to enhance their knowledge and attitude. They acted by readily accepting to participate through mutual goal setting with the investigator. The investigator reacted by assessing the pre test level of knowledge and attitude in experimental and control group followed by an interactive session of administering multimedia educational package for women only in experimental group . The transaction phase consisted of the post test assessment of knowledge and attitude in both experimental and control group, which revealed that majority of women, had significantly enhanced level of knowledge and attitude following the intervention. Thus proving that the multimedia educational package prepared and administered by the investigator was very effective in improving the knowledge and enhance the attitude of women regarding preconception care.

Hence the null hypothesis (**NH_1)** stated earlier that "**there is no significant difference between the pre and post test level of knowledge and attitude regarding preconception care among women between experimental and control group at the level of $p<0.05$**" was **rejected** in experimental group and **accepted** in control group.

5.3 The third objective was to correlate the post test level of knowledge with attitude score regarding preconception care among women in the experimental and control group.

The table 4.4.1 showed the analysis on correlation of post test mean knowledge score with attitude score regarding preconception care among women in experimental group, the mean value was 12.58 with S.D 4.52 for knowledge and for attitude the mean value was 9.20 with S.D 6.57. The calculated 'r' value was 0.366 which revealed that there was fair positive correlation of knowledge with attitude at the level of $p<0.01$.

The table 4.4.2 showed the analysis on correlation of post test mean knowledge with attitude regarding preconception care among women in control group, the mean value was 0.180 with S.D 1.02 for knowledge and for attitude the mean value was 0.100 with S.D 0.71 for attitude. The calculated 'r' value was -0.025 which shows a negative correlation of knowledge with attitude which was not statistically significant.

Hence the null hypothesis **(NH_2)** stated earlier that **"there is no significant relationship between the pre and post test level of knowledge with attitude regarding preconception care among women between experimental and control group at the level of p<0.05"** was **rejected** in experimental group and **accepted** in control group**.**

5.4 The fourth objective was to associate the selected demographic variables with the mean differed knowledge score and attitude score regarding preconception care among women in the experimental and control group

The table 4.5.1 and 4.5.2 revealed that the association of demographic variables with the mean differed knowledge score among women showed that there was low statistically significant association with the source of information at $p<0.05$ and the association of demographic variables with attitude showed that there was low statistically significant association with the religion at $p<0.05$ in experimental group.

The table 4.5.3 and 4.5.4 showed there was no statistically significant association of selected demographic variables with the mean differed knowledge score and attitude score among women in the control group.

Hence the null hypothesis **(NH_3)** stated earlier that **"there is no significant association of selected demographic variables with the mean differed level of knowledge and attitude regarding preconception care among women in experimental and control group at the level of p<0.05"** was **accepted for** the demographic variable namely religion and source of information and was **rejected** for other demographic variables in experimental group and **rejected** for all demographic variables in control group.

CHAPTER- 6

Summary, Conclusion, Implications, Recommendations and Limitation

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

This chapter presents the summary, conclusion, implications, plan for research utilization, recommendations, plan for research dissemination and limitations of the study.

6.1 SUMMARY

A woman in reproductive age plays an important role in determining the health of future population, because their health has an intergenerational effect. Despite of modernization of antenatal care in the worldwide, the incidence of adverse pregnancy outcomes is 25-30 percent. In India more than 60 percent of the pregnancies are unplanned and hence many women may be engaged in behaviors that have deleterious effects on the developing fetus. Organogenesis which occurs between 17-56 days post conception is a time when most of the fetal organs develop and many of the women may be unaware of their pregnancy. As they are unaware they may be involved in the faulty habits and lose the opportunity to modify the behaviors that would negatively impact her pregnancy. The pregnancy outcomes can be improved if the pregnancies are planned, so it is important to take preventive action as early as possible, preferably in preconception period. Preconception care makes a positive difference to the health of the mother and the child. The concept of preconception care has emerged as a potentially vital tool for not only improving women's chances of having healthy pregnancies and newborns, but of supporting their reproductive health status over time. More and more evidence points to the fact that the way the child were nourished and grew in mother's womb have an important impact on the health as an adult.

The purpose of the study was to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women.

The objectives of the study were

1. To assess and compare the pre and post test level of knowledge and attitude regarding preconception care among women in experimental and control group.
2. To assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women.
3. To correlate the post test level of knowledge with attitude regarding preconception care among women in experimental and control group.
4. To associate the selected demographic variables with the mean differed level of knowledge and attitude regarding preconception care among women in experimental and control group.

The study was based on the assumptions that

1. Women may have some knowledge and attitude regarding preconception care.
2. Multimedia educational package may enhance the knowledge of women regarding preconception care.
3. Enhanced knowledge may create a positive attitude towards preconception care.

The null hypotheses formulated were

NH_1: There is no significant difference between the pre and post test level of knowledge and attitude regarding preconception care among women between experimental and control group at the level of $p<0.05$.

NH_2: There is no significant relationship between the pre and post test level of knowledge with attitude regarding preconception care among women in experimental and control group at the level of $p<0.05$.

NH_3: There is no significant association of selected demographic variables with the mean differed level of knowledge and attitude regarding preconception care among women in experimental and control group at the level of $p<0.05$.

The investigator has done an in depth review of literature which included both theoretical and empirical related studies and statistics which provided a strong foundation for the study, including the basis for the conceptual framework and formation of the tool and to select the research methodology, namely non equivalent control group design which was found to be suitable for the study.

The conceptual framework for the study was based on Imogene King's goal attainment theory, which provided a comprehensive framework for evaluation of tool.

The content validity of the data collection tool and the intervention tool was obtained from 2 Medical experts and 4 nursing experts in the field of Obstetrics and Gynaecology.

The reliability of the knowledge tool was determined by test retest method and attitude scale was assessed by spilt half method and the feasibility of the study was analyzed by conducting a pilot study at Beeku Export Industries at Kolathur, Tiruvallur District and the study finding determined the high reliability of the tool.

The main study was conducted at Kannan export industries in Thickanamcode and Munjirah at Kanyakumari district. 100 women who fulfilled the sample selection criteria were taken as samples by means of Purposive sampling technique and ethical aspects were maintained throughout the study.

Refined tools were used for data collection. Data collected were analyzed and interpreted based on the objectives and null hypotheses using descriptive and inferential statistics. The findings revealed that there was statistically significant difference in the level of knowledge and attitude regarding preconception care among women after the administration of multimedia educational package.

The major findings of the study revealed that

When comparing the pre and post test level of knowledge and attitude in experimental group was t =19.689 and t = 9.895 which was significant at $p < 0.001$ level. The findings revealed that there was a high statistically significant difference in the level of knowledge and attitude regarding preconception care among women in experimental group.

When comparing the pre and post test level of knowledge and attitude in control group was t =1.243 and t = 1.000 which was not significant. The findings revealed that there was statistically no significant difference in the level of knowledge and attitude regarding preconception care among women in control group

When comparing the pre test level of knowledge with experimental and control group the calculated ‘t’ value was -1.187, which was lesser than the table value and this indicated that there was statistically no significant difference between experimental and control group. When comparing the post test level of knowledge with experimental and control group the calculated ‘t’ value was 12.123, which was greater than the table value and this indicated that there was statistically high significant difference at $p<0.001$ level.

When comparing the pre test level of attitude with experimental and control group the calculated ‘t’ value was -1.115, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level. When comparing the post test level of attitude with experimental and control group the calculated ‘t’ value was 6.635, which was greater than the table value and this indicated that there was statistically high significant difference at $p < 0.001$ level.

The analysis also revealed that there was a significant association between the mean differed knowledge score with source of information at $p < 0.01$ level and mean differed attitude score with religion at $p < 0.01$ level.

6.2 CONCLUSION

The present study assessed the effectiveness of Multimedia Educational Package on knowledge and attitude regarding preconception care among women. The study findings concluded that there was a significant difference in the level of knowledge and attitude of women between experimental and control group after administration of Multimedia Educational Package regarding preconception care among women and this proved to be an effective method to improve the knowledge and attitude regarding preconception care among women.

6.3 IMPLICATIONS

The investigator has drawn the following implications from the study, which is of vital concern in the field of Nursing practice, Nursing Administration, Nursing Education and Nursing Research.

6.3.1 Nursing Practice

The midwives have a vital role to work with women to build their knowledge, understanding and informed decision-making in relation to preconception care.

It offers an excellent opportunity to the public health nurse, auxiliary nurse, the midwives, all health workers in rural areas to give information and education in order to promote positive attitude about preconception care among women.

Midwives should possess professional responsibility in educating women that encompass teaching, counseling and clinical roles.

This can be facilitated by motivating the nurse midwives to:

- Utilize the findings of the study to plan regular and periodic health education session for women in hospitals and community health centres regarding preconception care.
- Implement mass educational programme on preconception care awareness using Multimedia Educational Package.
- Teach the public to engage in health promotion and health check up to prevent further complication

6.3.2 Nursing Education

- Conduct seminars, workshops and conferences for students regarding the recent advancement in preconception care in order to provide up to date information to enhance their knowledge.
- Encourage the nursing students for effective utilization of research based practice.
- In nursing schools, Colleges and other Nursing Educational Institutions the students should be adequately prepared to provide mass health education programme to improve level of knowledge regarding preconception care.

6.3.3 Nursing Administration

- The nurse administrator should collaborate with governing bodies to create policies, mobilize resources and create coalition with nongovernmental organizations in order to create awareness on preconception care among women.

- The nurse administrator should conduct in-service program and continuing education programme on utilization of health care services and its impact on women.
- The nurse administrator should initiate in creating policies and plans in providing education regarding preconception care and its practices to the women before pregnancy.
- Nursing personnel should be prepared to take leadership role in educating the Nurses, Community health workers& other health personnel to provide health education regarding preconception care to the women
- The nurse administrator should take adequate steps in formulating policies and standing protocols in providing patient education regarding preconception care

6.3.4 Nursing Research

As a nurse researcher

- Disseminate the findings of the research through conferences, seminars and publishing in nursing journal.
- Utilize evidence and research findings in planning, implementing and evaluating the care of women.

6.4 RECOMMENDATIONS

1. The Investigator recommends the Multimedia Educational Package as an ideal tool to be followed in the hospitals, industries and community settings for women.
2. The investigator recommends the students of Omayal Achi College of Nursing to utilize the Multimedia Educational Package on preconception care among women in Omayal Achi Community Health Centre, Sir Ivan Stedeford Hospital and other affiliated hospitals of Omayal Achi College.
3. Similar type of video CD’s can be prepared in various aspects of Obstetrics includes antenatal, postnatal and newborn care.
4. The investigator can use women to women approach for health education regarding preconception care in various settings.

The study recommends the following for future research:

1. Similar study can be replicated on a larger sample to increase validity and generalizability of findings.
2. A comparative study on knowledge and attitude regarding preconception care among women between urban and rural community can be conducted.
3. An explorative study to assess the factors influencing preconception care can be conducted.
4. A prevalence study on adverse pregnancy outcomes can be conducted in a larger setting.
5. A similar study can be carried out by using various teaching methods.

6.5 LIMITATIONS

1. The investigator found difficult to identify the age of participants since they hesitated to reveal their age.
2. The Researcher found difficulty in getting extensive International and National reviews on knowledge and attitude aspects regarding preconception care among women.

6.6 PLAN FOR RESEARCH DISSEMINATION

The research findings will be disseminated in National and International conferences conducted at various institutions and also publish in Indian Journal of Midwifery.

6.7 PLAN FOR RESEARCH UTILIZATION

The research findings will be incorporated in Kannan Export Industries and other various industries, hospitals and health centers.

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Appendices

APPENDIX – C

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Ms.Nisha.J
M. Sc (N) II year,
Omayal Achi College of Nursing,
puzhal, Chennai – 600 066

To

Respected Madam / Sir,

Sub: Requisition for expert opinion on suggestion for content validity of the tool

I am Ms.Nisha.J., doing my M.Sc Nursing II year specializing in Obstetrics and Gynaeclogical Nursing at Omayal Achi College of Nursing. As a part of my research project to be submitted to the Tamilnadu Dr.M.G.R University and in partial fulfillment of the University requirement for the award of M.Sc (N) degree, I am conducting **"A quasi experimental study to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari district".**

I have enclosed my data collection tool and intervention tool for your expert guidance and validation. Kindly do the needful.

Thanking you,

Yours Faithfully,

(NISHA.J.)

Enclosures:

1. Research proposal
2. Data collection tool
3. Intervention tool
4. Content validity form
5. Certificate for content validity

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERTS:

1. **Dr. Mrs.Hidayatunnissa MBBS, DNB (O &G)**
   HOD-Obstetrics and gynecology,
   Sir Ivan Stedeford Hospital,
   Ambattur, Chennai- 600 053.

2. **Dr.Mrs.Sucharitha MBBS, DNB (O&G)**
   Obstetrician and Gynecologist,
   Sir Ivan Stedeford Hospital,
   Ambattur, Chennai – 600 053

NURSING EXPERTS:

1. **Mrs. Rosaline Rachel**
   Professor cum Principal,
   Obstetric and Gynecological Nursing,
   Indira College of Nursing,
   Pandur – 631 203.

2. **Mrs. Nalini**
   Professor,
   Obstetric and Gynecological Nursing,
   Sri Ramachandra College of Nursing,
   Chennai

3. **Mrs. Latha**
   Professor,
   Obstetric and Gynecological Nursing,
   SRM College of Nursing,
   Chennai

4. **Mrs.Gayathri**
   Professor,
   Obstetric and Gynecological Nursing,
   Sri Ramachandra College of Nursing,
   Chennai

APPENDIX – F

INFORMED CONSENT REQUISITION FORM

Good morning,

I **Ms.Nisha.J**., M.sc. (Nursing) II year student from Omayal Achi College of Nursing, Chennai, conducting "**A quasi-experimental study to assess the effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari district**" as a partial fulfilment of the requirement for the degree of M.Sc. Nursing under the Tamil Nadu Dr. M.G.R. Medical University.

I assure you that information provided by you will be kept confidential. So, I request you to kindly cooperate with me and participate in this study by giving your frank and honest responses to the questions being asked.

Thank you.

INFORMED WRITTEN CONSENT FORM

I understand that I am being asked to participate in a research study conducted by **Ms. Nisha.J.,** Msc (N) student of Omayal Achi College of Nursing. This research study will assess the **"Effectiveness of multimedia educational package on knowledge and attitude regarding preconception care among women at selected industries, Kanyakumari District".** If I agree to participate in the study and no identifying information will be included when it is transcribed. I understand that there are no risks associated with this study. .

I realize that the knowledge gained from this study may help either me or other people in the future. I realize that my participation in this study is entirely voluntary, and I may withdraw from the study at any time I wish. If I decide to discontinue my participation in this study, I will continue to be treated in the usual and customary fashion.

I understand that all study data will be kept confidential. However, this information may be used in nursing publication or presentations. If I need to, I can contact **Ms.Nisha.J.,** M.Sc.(N) II year student of Omayal Achi College of Nursing, #45 Ambattur road, Puzhal, Chennai at any time during the study.

The study has been explained to me. I have read and understood this consent form, all of my questions have been answered, and I agree to participate. I understand that I will be given a copy of this signed consent form.

---------- **----------**

Signature of Participant **Date:**

---------- **----------**

Signature of Investigator **Date:**

ஒப்புதல் படிவம்

வணக்கம்,

செல்வி.நிஷா.ஜெ ஆகிய நான் புழலில் உள்ள உமையாள் ஆச்சி செவிலியர் கல்லூரியில் முதுகலை பட்டப்படிப்பு பயின்று வருகின்றேன். என் படிப்பின் ஒரு பகுதியாக தொழிற்சாலைகளில் வேலை பார்க்கும் இளம் வயது பெண்களின் கருவுறுதலுக்கு முந்தைய கவனிப்பு முறைகள் பற்றிய ஆராய்ச்சிக்கான வினாத்தாள் மற்றும் அபிப்பிராய கருவியை வடிவமைத்துள்ளேன். பிறப்பு சார்ந்த பாதுகாப்பு பற்றி பொருட்காட்சி மூலமாக விளக்கம் கூறி அதன் மூலம் இளம் வயது தாய்மார்களுக்கு பிறந்த சார்ந்த பாதுகாப்பின் அவசியத்தை அறிவுறுத்துவேன்.

தயவு செய்து நீங்கள் என்னுடன் ஒத்துழைக்குமாறு வேண்டிக் கொள்கிறேன். நான் உங்களிடம் இருந்து பெற்ற தகவல்களை எக்காரணத்தைக் கொண்டும் வெளியிட மாட்டேன் என்று உறுதி அளிக்கிறேன்.

நன்றி!

முன் அறிவிப்பு ஒப்பந்த படிவம்

உமையாள் ஆச்சி செவிலியர் கல்லூரியின் சார்பில் முதுநிலை பட்டப்படிப்பு பயிலும் செல்வி.நிஷா.ஜெ அவர்களால் நடத்தபெறும் இந்த ஆய்வில் என்னை பங்கேற்க கேட்டுக் கொண்டதை நான் ஏற்றுக்கொள்கிறேன். இந்த ஆராய்ச்சியானது கன்னியாகுமரி மாவட்டம் தொழிற்சாலைகளில் வேலை பார்க்கும் இளம் வயது பெண்களின் கருவுறுதலுக்கு முந்தைய பாதுகாப்பு முறைகள் பற்றிய அறிவு மற்றும் அபிப்ராயம் பற்றியது ஆகும். இந்த ஆய்வுக்கு நான் ஒப்புக் கொண்டால் அதனைத் தொடர்ந்து உள்ள பயிற்சிகளில் நான் பங்கேற்க வேண்டும் என்றும் என்னிடம் நடத்தும் இந்த ஆய்வு முடிவுகள் அனைத்தும் பதிவு செய்து பாதுகாக்கப்படும் என்பதை நான் அறிவேன். என்னைப் பற்றி சேகரித்த சுய தகவல்கள் அனைத்தும் வெளியிடப்படாமல் ஆய்வு மேற்கொள்ளப்படும். இதன் மூலமாக எனக்கு எந்த பாதிப்பும் இல்லை என்பதை அறிந்துக் கொண்டேன்.

எதிர்காலத்தில் இந்த ஆய்வின் முடிவுகள் எனக்கோ அல்லது பிற மக்களுக்கோ பயன்படும் என்பதை அறிவேன். நான் யாருடைய கட்டாயத்தின் பெயரிலோ அல்லது வற்புறுத்தலின் பெயரிலோ இந்த ஆய்வில் பங்கு கொள்ளவில்லை என்பதையும், தேவைப்பட்டால் இந்த ஆய்விலிருந்து நான் விலகிக் கொள்ளவும் எனக்கு முழு உரிமை உண்டு என்பதையும் அறிவேன். அவ்வாறு ஆய்விலிருந்து நான் விலகிக் கொள்ளும் பட்சத்தில் எப்போதும் பிறரைப் போலவே நடத்தப்படுவேன் என்பதை நான் அறிவேன்.

என்னைப் பற்றிய அனைத்து தகவல்களும் இரகசியமாக பாதுகாக்கப்படும் என்பதையும் தேவைப்படும் போது ஆய்வின் முடிவுகள் செவிலியர் சார்ந்த பத்திரிகைகைகளிலும் வெளியிட முழு சம்மதம் அளிக்கிறேன். இந்த ஆய்வில் தேவைப்படும் போது எப்போது வேண்டுமானாலும் செல்வி.நிஷா.ஜெ அவர்களை உமையாள் ஆச்சி செவிலியர் கல்லூரியில் தொடர்பு கொள்ளலாம் என்பதை நான் அறிவேன்.

இந்த ஆய்வு பற்றிய முழு விளக்கமும் எனக்கு தெரிவிக்கப்பட்டது. இந்த ஆய்விற்கு தேவையான கேள்விகளுக்கு தகுந்த பதில்களை அளித்து ஆய்வில் முழு மனதுடன் பங்குகொள்ள சம்மதம் அளிக்கின்றேன். இந்த ஒப்பந்த படிவத்தின் நகல் எனக்கு அளிக்கப்படும் என்பதையும் அறிவேன்.

பங்குகொள்பவரின் கையொப்பம் **தேதி:**

ஆராய்ச்சியாளரின் கையொப்பம் **தேதி:**

APPENDIX – G

SELF STRUCTURED KNOWLEDGE QUESTIONNAIRE

SECTION A : DEMOGRAPHIC DATA

Read the following items carefully and complete it by placing tick mark

1. Age (in years)
    a. 19
    b. 20
    c. 21

2. Education
    a. Non literate
    b. Primary education
    c. Secondary education
    d. Higher secondary education
    e. Graduate

3. Religion
    a. Hindu
    b. Muslim
    c. Christian
    d. Others.

4. Type of family
    a. Nuclear family
    b. Joint family
    c. Extended

5. Residential area
    a. Rural
    b. Urban

6. Personal habits
    a. smoking
    b. alcoholism
    c. betel nuts chewing
    d. none

7. Previous knowledge about preconception care
    a. Yes
    b. No

8 If yes, specify
    a. Peer group
    b. Mass media
    c. Health personnel
    d. parents

SECTION – B

Structured knowledge questionnaire to assess the knowledge regarding preconception care

INSTRUCTION

Read the statement carefully and put tick mark against the best choice

1. What is conception?
    a. Process of delivering baby
    b. Process of avoiding pregnancy
    c. Abortion process
    d. Union of male sperm and female ovum

2. What is preconception care?
    a. Care given before conception
    b. Care given after delivery
    c. Care given during delivery
    d. Care given during pregnancy

3. What is the importance of preconception care?
    a. To reduce birth defects
    b. To maintain psychological status
    c. To maintain neighbourhood
    d. To maintain close relationship with family members

4. What is the appropriate age for knowing preconception care?
    a. childhood
    b. adolescent
    c. adult
    d. Old age.

5. What is the appropriate age for conception?
    a. <20 years
    b. 21-35 years

c. 36-50 years
d. >50 years

6. What is the importance of avoiding consanguineous marriage?
   a. not accepted in culture
   b. increase genetic disorders
   c. old practice
   d. infertility

7. What is the need of avoiding fast food?
   a. To prevent birth defects
   b. To prevent genetic disorders
   c. To maintain beauty
   d. To increase weight

8. How many glasses of water has to be taken everday?
   a. 0-2 glasses
   b. 2-4 glasses
   c. 4-6 glasses
   d. 8-10 glasses

9. What are the effects of over consumption of caffeine?
   a. Miscarriage, delayed consumption
   b. Excessive vaginal bleeding
   c. Excessive white discharge
   d. Increased frequency of micturition

10. When folic acid tablet should be started?
    a. Before conception.
    b. After conception
    c. After delivery
    d. After family planning

11. What is the daily requirement of folic acid in diet before conception?
    a. 200 microgram
    b. 400 microgram
    c. 600 microgram
    d. 800 microgram

12. What are the rich food sources of folic acid?
    a. Meat, fish
    b. Spinach, beans, peas
    c. Amla, brinjal
    d. Bitter guard, bottle guard

13. What are the reasons for getting iron deficiency in women?
    a. Injuries
    b. White discharges
    c. Menstruation
    d. Poor intake of nutritious diet

14. What is the need of iron intake in the diet?
    a. To control bleeding.
    b. To prevent anaemia
    c. To improve white blood cells
    d. To coagulate blood

15. What are the important sources of calcium?
    a. meat
    b. fish, egg
    c. cheese, milk
    d. wheat

16. What are the measures to be taken for weight management?
    a. Take junk foods like noodles
    b. Regular exercise, eat nutritional adequacy
    c. Rest and sleep
    d. Doing heavy works

17. What are the benefits of exercise?
    a. Physical health and wellbeing
    b. Prevents infection
    c. Improves knowledge
    d. Improves memory

18. What is the need of avoiding heavy work?
    a. Prevents temperature variation
    b. Prevents weight loss
    c. Prevents fatigue
    d. Prevents dyspnoea

19. When does the conception can be planned after vaccination?
    a. 1-3 months
    b. 3-6 months
    c. 6-9 months
    d. 9-12 months

20. What are the symptoms of urinary tract infection?
    a. Pain during micturition
    b. Increased frequency of micturition
    c. Dripping of urine
    d. Hematuria

21. How perineum should be cleaned after defecation , urination?
    a. Front to back
    b. Back to front
    c. Left to right
    d. Right to left

22. What is the importance of menstrual hygiene?
    a. to prevent infection
    b. to prevent inflammation
    c. to prevent itching
    d. to prevent abdominal pain

23. What is meant by reproductive tract infection?
    a. infection of cervix, uterus
    b. infection of breast
    c. infection of mouth
    d. infection of abdomen

24. What are the symptoms of reproductive tract infection?
    a. discharge , itching in the perineal region
    b. bleeding from the perineum
    c. fatigue
    d. vomiting

25. What is the best method to prevent sexually transmitted infection, reproductive tract infection?
    a. single partner and use of condoms
    b. multiple partner and use of condoms
    c. use of oral pills
    d. use of copper. T

SECTION C: Modified 4 point Likert scale to assess the attitude of women regarding preconception care.

S.No.	STATEMENT	SA	A	D	SD
1.	Conception care can be started after marriage.				
2.	Genetic screening can be done only if they have genetic disorders.				
3.	Consanguineous marriage is a safe marriage.				
4.	Junk food is good for health.				
5.	Only pregnant women can take folic acid tablet				
6.	Starving can be a good method to reduce weight				
7.	Using sanitary pads during menstruation is a healthy practice.				
8.	Consuming 8-10 glasses of water daily is good for health.				
9.	Exercise helps to maintain physical fitness and overall health and wellness.				
10.	Premarital sexual relationship can be acceptable.				
11.	A reproductive tract infection commonly occurs through sexual contact.				
12.	Perineum has to be cleaned after defecation and urination.				

SA - Strongly agree

A - Agree

D - Disagree

SD - Strongly disagree

பிரிவு – அ
தனி நபர் விவரம்

1. வயது வருடங்களில்
   அ) 19
   ஆ) 20
   இ) 21

2. படிப்பு
   அ) படிப்பறிவில்லாதவர்
   ஆ) ஆரம்பக் கல்வி
   இ) உயர்நிலைக்கல்வி
   ஈ) மேல்நிலைக்கல்வி
   உ) பட்டப்படிப்பும் அதற்கு மேலும்

3. மதம்
   அ) இந்து
   ஆ) முஸ்லீம்
   இ) கிறித்துவம்
   ஈ) மற்றவை

4. குடும்ப வகை
   அ) தனிக்குடும்பம்
   ஆ) கூட்டுக்குடும்பம்
   இ) விரிவான குடும்பம்

5. வசிக்குமிடம்
   அ) கிராமம
   ஆ) நகரம்

6. பழக்கவழக்கம்
   அ) புகைப்பிடித்தல்
   ஆ) மது அருந்துதல்
   இ) வெற்றிலை போடும் பழக்கம்
   ஈ) எதுவுமில்லை

7. கருத்தரிப்பதற்கு முந்தைய கவனிப்பு முறைகளை குறித்து ஏற்கனவே உங்களுக்கு தெரியுமா?
   அ) ஆம்
   ஆ) இல்லை

8. "ஆம்" என்றால் கருத்தரிப்பதற்கு முந்தைய கவனிப்பு முறைகளை குறித்து கூறியது யார்?
   அ) நண்பர்கள்
   ஆ) டிவி, ரேடியோ, நாளிதழின் மூலமாக
   இ) செவிலியர்கள்
   ஈ) பெற்றோர்கள்

பிரிவு – ஆ

கருத்தரிப்பதற்கு முந்தய கவனிப்பு முறைகளை குறித்தான பெண்களின் அறிவு திறனை சோதிக்கும் வினா நிரல்

1. கருத்தரித்தல் என்றால் என்ன?
   அ) குழந்தை பிறப்பின் செயல்முறை
   ஆ) கர்ப்பதடை செயல்முறை
   இ) கருக்கலைப்பு
   ஈ) விந்து அணு கருமுட்டை சேர்க்கை

2. கருத்தரிப்பதற்கு முந்தைய கவனிப்பு என்றால் என்ன?
   அ) எதிர்கால பெற்றோர்களுக்கு வழங்கும் அறிவுரை
   ஆ) குழந்தை பிறந்த பிறகு பெற்றோர்களுக்கு வழங்கும் அறிவுரை
   இ) பிரவசத்தின் போது வழங்கும் அறிவுரை
   ஈ) கர்ப்ப கால அறிவுரை

3. கருத்தரிப்பதற்கு முந்தைய கவனிப்பின் முக்கியத்துவம் என்ன?
   அ) பிறப்பு குறைபாடுகளை குறைப்பதற்கு
   ஆ) மனநிலையை உறுதியாக வைத்துக்கொள்வதற்கு
   இ) சுற்றத்தாருடன் நல் உறவு வைத்துக்கொள்வதற்கு
   ஈ) குடும்பத்தாருடன் அதிக ஈடுபாடு கொள்வதற்கு

4. கருத்தரிப்பதற்கு முந்தைய பராமரிப்பைப் பற்றி அறிந்துகொள்ள வேண்டிய பொருத்தமான வயது என்ன?
   அ) குழந்தை பருவம்
   ஆ) இளமை பருவம்
   இ) வயது வந்தவர்
   ஈ) முதிர்ந்த பருவம்

5. கருத்தரிப்பதற்கு மிகவும் பொருத்தமான வயது என்ன?
   அ) <20 வருடம்
   ஆ) 21–35 வருடம்
   இ) 36–50 வருடம்
   ஈ) >50 வருடம்

6. உறவு முறை திருமணத்தை தவிர்ப்பதின் முக்கியத்துவம் என்ன?
   அ) கலாச்சாரத்தில் ஏற்கத்தக்கது அல்ல
   ஆ) மரபணு சம்பந்தமான நோய்களை அதிகரிக்கும்
   இ) காலங்கடந்த பழக்கம்
   ஈ) குழந்தையின்மை

7. துரித உணவை தவிர்க்க வேண்டிய அவசியம் என்ன?
   அ) பிறவி குறைப்பாட்டை தடுப்பதற்கு
   ஆ) மரபணு கோளாறை தடுப்பதற்கு
   இ) அழுகை சீரமைப்பதற்கு
   ஈ) உடல் எடையை அதிகரிப்பதற்கு

8. தினசரி எடுத்துக்கொள்ள வேண்டிய தண்ணீரின் அளவு என்ன?
   அ) 0 – 2 கோப்பை
   ஆ) 2 – 4 கோப்பை
   இ) 4 – 6 கோப்பை
   ஈ) 8 – 10 கோப்பை

9. கா∴பியை அதிகமாக உட்கொள்ளுதலின் விளைவுகள் என்ன?
   அ) கருசிதைவு, தாமதமாக கருத்தரித்தல்
   ஆ) அதிகமாக தீட்டுப்படுதல்
   இ) அதிகமாக வெள்ளைப்படுதல்
   ஈ) அதிகமாக சிறுநீர் வெளியேறுதல்

10. ∴போலிக் அமில மாத்திரையை உட்கொள்ள எப்போது துவங்க வேண்டும்?
   அ) கருத்தரிப்பதற்கு முன்
   ஆ) கருத்தரிப்பதற்கு பின்
   இ) பிரசவத்திற்கு பின்
   ஈ) குடும்ப கட்டுப்பாட்டிற்கு பின்

11. தினசரி உட்கொள்ள வேண்டிய ∴போலிக் அமிலத்தின் அளவு என்ன?
   அ) 200 மைக்ரோ கிராம்கள்
   ஆ) 400 மைக்ரோ கிராம்கள்
   இ) 600 மைக்ரோ கிராம்கள்
   ஈ) 800 மைக்ரோ கிராம்கள்

12. ∴போலிக் அமிலம் உள்ள சத்து மிகுந்த உணவு வகைகள் என்ன?
   அ) இறைச்சி, மீன்
   ஆ) கீரை, அவரை
   இ) நெல்லிக்காய், கத்தரிக்காய்
   ஈ) பாகற்காய், புடலங்காய்

13. பெண்களுக்கு எதனால் இரும்புச்சத்துக் குறைபாடுகள் ஏற்படுகிறது?
    அ) வெட்டுக்காயங்களால்
    ஆ) வெள்ளைப்படுதலால்
    இ) மாதவிடாயினால்
    ஈ) சத்தான உணவு எடுத்துக்கொள்ளாததால்

14. இரும்புச்சத்தின் முக்கியத்துவம் என்ன?
    அ) இரத்தப் போக்கை சீரமைக்கும்
    ஆ) இரத்தச்சோகையை தடுக்கும்
    இ) வெள்ளை அணுக்களை அதிகரிக்கும்
    ஈ) இரத்தத்தை உறைய வைக்கும்

15. கால்சியம் சத்து அதிகமாக உள்ள உணவுகள் என்ன?
    அ) இறைச்சி
    ஆ) மீன், முட்டை
    இ) பாலாடைகட்டி, பால்
    ஈ) கோதுமை

16. உடல் எடையை சீராக வைத்துக் கொள்ள என்ன செய்ய வேண்டும்?
    அ) துரித உணவுகளை உட்கொள்ளுதல்
    ஆ) தினசரி உடற்பயிற்சி, சரிவிகித உணவு எடுத்துக் கொள்ளுதல்
    இ) ஓய்வு மற்றும் தூக்கம்
    ஈ) கடினமான வேலை செய்தல்

17. உடற்பயிற்சியின் பயன்கள் என்ன?
    அ) உடலை ஆரோக்கியமாக வைக்க
    ஆ) தொற்று நோயை தடுக்க
    இ) அறிவை பெருக்க
    ஈ) ஞாபகச்சக்தியை அதிகரிக்க

18. ஏன் கடின வேலையை தவிர்க்க வேண்டும்?
    அ) உடலின் தட்ப்ப வெப்ப நிலை மாறுதல் அடையாமல் இருக்க
    ஆ) எடை குறையாமல் இருக்க
    இ) சோர்வு அடையாமல் இருக்க
    ஈ) மூச்சு திணறல் வராமல் இருக்க

19. தடுப்பூசி போட்டபின் எப்போது கருத்தரிப்பதைத் திட்டமிடலாம்?
    அ) 1 – 3 மாதங்களில்
    ஆ) 3 – 6 மாதங்களில்
    இ) 6 – 9 மாதங்களில்
    ஈ) 9 – 12 மாதங்களில்

20. சிறுநீர் பாதையில் ஏற்படும் நோய் தொற்றின் அறிகுறிகள் என்ன?
    அ) சிறுநீர் கழிக்கும்போது வலி
    ஆ) பலமுறை சிறுநீர் கழித்தல்
    இ) சொட்டுச்சொட்டாக சிறுநீர் கழித்தல்
    ஈ) சிறுநீரகத்துடன் இரத்தம் வெளியேறுதல்

21. சிறுநீர் மலம் கழித்த பின்பு பிறப்புறுப்பு பகுதியை எவ்வாறு சுத்தம் செய்ய வேண்டும்?
    அ) முன்னிருந்து பின்
    ஆ) பின்னிருந்து முன்
    இ) வலமிருந்து இடது
    ஈ) இடமிருந்து வலது

22. ஏன் மாதவிடாயின் போது சுத்தமாக இருக்க வேண்டும்?
    அ) தொற்று நோயை தடுத்தல்
    ஆ) வீக்கத்தை தடுத்தல்
    இ) அரிப்பை தடுத்தல்
    ஈ) வயிற்றுவலியை தடுத்தல்

23. பிறப்பு உறுப்பின் ஏற்படும் தொற்று நோய் என்றால் என்ன?
    அ) கர்ப்பபையிலும் அதன் பாதையிலும் ஏற்படக்கூடிய தொற்று
    ஆ) மார்பகத்தில் ஏற்படக்கூடிய தொற்று
    இ) வாயில் ஏற்படக்கூடிய தொற்று
    ஈ) வயிற்றில் ஏற்படக்கூடிய தொற்று

24. பிறப்புறுப்பு தொற்று நோயின் அறிகுறிகள் என்ன?
    அ) வெள்ளைப்படுதல், பிறப்புறுப்பு அரிப்பு
    ஆ) இரத்தப்போக்கு
    இ) சோர்வு
    ஈ) வாந்தி

25. பால்வினை நோய் மற்றும் பிறப்புறுப்பு நோயை எவ்வாறு தடுக்க முடியும்?

அ) ஒருவருடன் உடலுறவு மற்றும் ஆணுறை உபயோகித்தல்

ஆ) பலருடன் உடலுறவு மற்றும் ஆணுறை உபயோகித்தல்

இ) கருத்தடை மாத்திரைகள் உட்கொள்ளுதல்

ஈ) காப்பர் – டி பயன்படுத்துதல்

பிரிவு – இ
நோக்க அளவீடு

கீழ்க்காணும் வாக்கியங்களை படித்து உங்கள் கருத்தை தெரிவிக்கும் வண்ணமாக, பொருத்தமான கட்டத்துக்குள் சரி (✓) என குறிக்கவும்:

வ.எண்.	பொருளடக்கம்	மு.ஒ	ஒ	ம	மு.ம
1	கருத்தரிப்பு பராமரிப்பு திருமணத்திற்கு பின்பு ஆரம்பிக்க வேண்டும் என்று கருதுகிறேன்.				
2	மரபணு சோதனை மரபணு வியாதியிருந்தால் மட்டுமே செய்ய வேண்டும் என்று கருதுகிறேன்.				
3	உறவுமுறை திருமணம் பாதுகாப்பானது என்று நினைக்கிறேன்.				
4	துரித உணவு உடல் நலத்திற்கு நல்லது என்று நினைக்கிறேன்.				
5	கர்ப்பிணி பெண்கள் மட்டுமே ∴போலிக் அமில மாத்திரையை உட்கொள்ள வேண்டும் என்று நினைக்கிறேன்.				
6	உடல் எடையை குறைப்பதற்கு உணவு உண்ணாமல் இருப்பது நல்லது என்று கருதுகிறேன்.				
7	மாதவிடாயின் போது சுத்தமான பஞ்சு பயன்படுத்துவது நல்லது என்று நினைக்கிறேன்.				
8	தினசரி 8-10 கோப்பைகள் நீர் அருந்துவது உடல் நலத்திற்கு நல்லது என்று நினைக்கிறேன்.				
9	உடற்பயிற்சி செய்வதின் மூலம் உடலை ஆரோக்கியமாகவும் நலமாகவும் வைத்து கொள்ளலாம் என்று கருதுகிறேன்.				
10	திருமணத்திற்கு முன் உடலுறவு வைத்து கொள்ளலாம் என்று நினைக்கிறேன்.				
11	பிறப்புறுப்பு நோய் பொதுவாக பாதுகாப்பற்ற உடலுறவினால் வருகிறது என்று கருதுகிறேன்.				
12	சிறுநீர், மலம் கழித்தபின் பிறப்புறுப்பை சுத்தம் செய்ய வேண்டும் என்று நினைக்கிறேன்.				

குறிப்பு:

மு.ஒ – முழுமையாக ஒப்புக்கொள்கிறேன்

ஒ – ஒப்புக்கொள்கிறேன்

ம – மறுக்கிறேன்

மு.ம – முழுமையாக மறுக்கிறேன்

APPENDIX – H

PLAGIARISM REPORT

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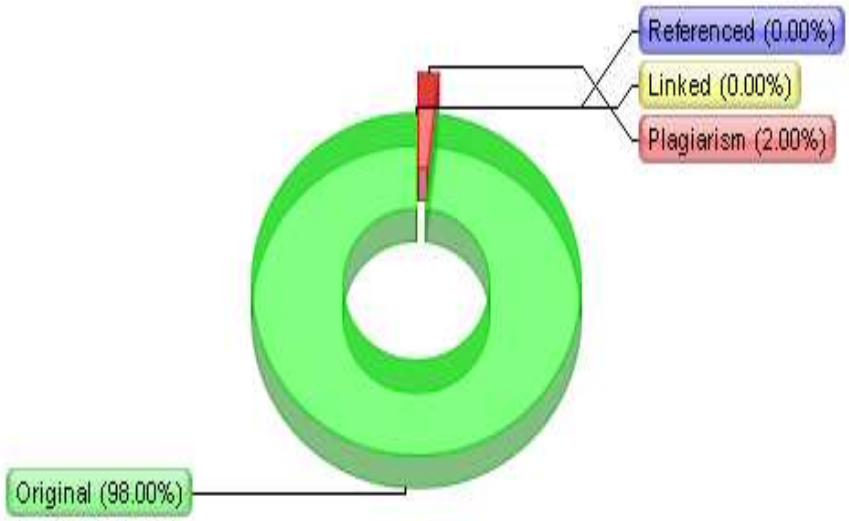

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Signature of the Investigator

Signature of the Principal

APPENDIX – I

CODING FOR DEMOGRAPHIC VARIABLES

Demographic Data	Code No.
1. Age (in years)	
d. 19	1
e. 20	2
f. 21	3
2. Education	
f. Non literate	1
g. Primary education	2
h. Secondary education	3
i. Higher secondary education	4
j. Graduate	5
3. Religion	
e. Hindu	
f. Muslim	2
g. Christian	3
h. Others	4
4. Type of family	
d. Nuclear family	1
e. Joint family	2
f. Extended	3
5. Residential area	
c. Rural	1
d. Urban	2

6. Personal habits
   a. Smoking 1
   b. Alcoholism 2
   c. Betel nuts chewing 3
   d. None 4

7. Previous knowledge about preconception care
   a. Yes 1
   b. No 2

8. If yes, specify
   a. Peer group 1
   b. Mass media 2
   c. Health personnel 3
   d. Parents 4

SCORING KEY

SECTION B:

Consists of structured knowledge questionnaire to assess the knowledge regarding preconception care. It consists of 25structured questions regarding preconception care.

Scoring Key

Each item was objective type and closed ended with a single correct answer. Every correct answer was given a score of "1'' mark and wrong answer was given "0''mark. The total score of the item was 25. The raw score was converted to percentage to interpret the level of knowledge.

The level of knowledge was categorized as:

Score	Level of knowledge
<50%	Inadequate knowledge
50-75%	Moderately adequate knowledge
>75%	Adequate knowledge

Section C: Tool to assess the level of attitude regarding preconception care

It consisted of Modified 4 point Likert Scale to assess the attitude of women regarding preconception care.

Scoring Key

S.No.	Item	Strongly agree	Agree	Disagree	Strongly disagree
1.	Positive statement	4	3	2	1
2.	Negative statement	1	2	3	4

It consisted of 12 items and the minimum score was 1 and the maximum score was 4. The total score was 48. The raw score was converted to percentage to interpret the level of attitude.

The level of attitude was categorized as:

SCORE	LEVEL OF ATTITUDE
<50%	Unfavourable attitude
50-75%	Moderately favourable attitude
>75%	Highly favourable attitude

APPENDIX – J

BLUE PRINT

S.NO.	CONTENT	ITEM	TOTAL ITEM	PERCENTAGE
1.	Demographic Variables	1-8	8	17.78
2.	Structured knowledge questionnaire	1-25	25	55.55
3.	Modified 4 point likert scale	1-12	12	26.67
	Total	**45**	**45**	**100%**

கருவுறுதலுக்கு முன்பான பாதுகாப்பு முறை

தலைப்பு	:	கருவுறுதலுக்கு முன்பான பாதுகாப்பு முறை
நேரம்	:	30 – 40 நிமிடங்கள்
இடம்	:	தேர்ந்தெடுக்கப்பட்ட தொழிற்சாலைகள், கன்னியாகுமரி மாவட்டம்
கற்பித்தல்	:	ஆராய்ச்சியாளர்
கற்புக்கும் முறை	:	சொற்பொழிவு மற்றும் கலந்துரையாடல்

பொதுவான நோக்கங்கள்:

இந்த வடிவமைக்கப்பட்ட போதனையின் முடிவில் பெண்கள் கருவுறுதலுக்கு முன் பாதுகாப்பு முறைகள் பற்றிய அறிவுத்திறனை பெறுவார்கள்.

குறிப்பான நோக்கங்கள்:

இந்த வகுப்பின் முடிவில் பெண்கள் கீழ்க்கண்ட அறிவுத்திறனை பெறுவார்கள்

- கருவுறுதல் மற்றும் கருவுறுதலுக்கு முந்தைய நிலையை விவரித்தல்
- கருவுறுதலுக்கு முந்தைய நிலையின் கூறுகளை பட்டியலிடுதல்
- மரபு கோளாறுகள் மற்றும் மருந்துவ வியாதிகளை கண்டறியும் முறை
- சுற்றுப்புற சூழலால் ஏற்படும் ஆபத்துகளை தடுப்பது
- வாழ்க்கை முறை மாறுதல்களை பற்றி விவாதித்தல்
- நோய் தடுப்பு முறைகளை குறிப்பிடுதல்
- நோய் தொற்றுகளை கண்டறியும் முறைகளை விவரித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
	கருவுறுதல் மற்றும் கருவுறுதலுக்கு முந்தைய நிலையை விவரித்தல்	**கருவுறுதலுக்கு முந்தைய பாதுகாப்பு முறை:** **கருவுறுதல்:** கருவுறுதல் என்பது ஆண் மற்றும் பெண்ணின் சினையின் சேர்க்கையாகும். **கருவுறுதலுக்கு முந்தைய பாதுகாப்பு முறை:** சுகாதார ஊக்குவிப்பு, மற்றும் இடர்பாடுகள், தலையீடுகள் மூலம் ஒரு பெண் கருவுறுதலுக்கு முன் இனபெருக்க ஆபத்துகளை குறைப்பது சம்மந்தமான கருத்துகளைக் கூறும் ஒழுங்கமைக்கப்பட்ட மற்றும் விரிவான திட்டமாகும். 	ஆராய்ச்சியாளர் கருவுறுதல் மற்றும் கருவுறுதலுக்கு முந்தைய நிலை பற்றி விவரிக்கிறார்.	கவனித்தல்
	கருவுறுதலுக்கு முந்தைய நிலையின் கூறுகளை பட்டியலிடுதல்	**கருவுறுதலுக்கு முந்தைய நிலையின் கூறுகளை பட்டியலிடுதல்:** மரபு கோளாறுகள் மற்றும் மருத்துவ வியாதி ஆகியவற்றை கண்டறியும் முறை சுற்றுப்புற சூழலால் ஏற்படும் ஆபத்துகளை தடுப்பது வாழ்க்கை முறை மாறுதல்கள் நோய் தடுப்பு முறைகள் நோய் தொற்றுகளை கண்டறியும் முறைகள்	ஆராய்ச்சியாளர் கருவுறுதலுக்கு முந்தைய நிலையின் கூறுகளை பட்டியலிடுகிறார்	கவனித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
	மரபு கோளாறுகள் மற்றும் மருந்துவ வியாதிகளை கண்டறியும் முறைகளை சுட்டிக்காட்டுதல்	**மரபு கோளாறுகள் மற்றும் மருத்துவ வியாதி ஆகியவற்றை கண்டறியும் முறை:** **மரபணு சோதனை:** மரபு நோய் அல்லது மரபணு செலுத்துவதால் ஏற்படும் மரபு நோய் ஆபத்துகளில் இருக்கும் மக்களை பரிசோதனை செய்தல்.  **மரபு பற்றிய நேர்காணல்:** மரபு பற்றிய நேர்காணல் என்பது மக்களை தொடர்பு கொண்டு மரபு பற்றிய விவரங்களை பகிர்ந்து கொள்வதாகும். இதன் குறிக்கோள், தனி நபருக்கு, கணவன் மனைவி அல்லது குடும்பங்கள் இதை புரிந்துக் கொள்ள உதவுதல் மற்றும் உடல் நிலையில் மரபணுவின் பங்கினால், மருத்துவம், மனோதத்துவம், குடும்பம் மற்றும் இனவிருத்தி ஆகியவற்றில் ஏற்படும் சிக்கல்களுக்கு ஏற்றால்போல் தங்களை மாற்றிக்கொள்வதாகும்.	ஆராய்ச்சியாளர் மரபு கோளாறுகள் மற்றும் மருந்துவ வியாதிகளை கண்டறியும் முறைகளை சுட்டிக்காட்டுதல்	கவனித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		ஆபத்துகளை உண்டாக்கும் காரணங்கள்: • குடும்ப சரித்திரத்தில் மரபணுவின் நிலை, பிறப்பில் ஏற்படும் நரம்பு குழாய் பாதிப்பு. குரோமோசோமல் குறைபாடுகளான டவுன் சின்ரோம் மற்றும் புற்று நோய் • கர்பம் தரித்த பெண் அல்லது 35 வயது மற்றும் அதற்கு மேல் கர்பம் தரிக்க திட்டமிடும் பெண்கள் • மன நோய் சம்பந்தமான குடும்ப சரித்திரம். • உறவு முறையில் நடக்கும் திருமணங்கள்.  **மருத்துவ நோய்களை கண்டறிதல்:** • நீரிழிவு நோய் உள்ளவர்கள் தங்கள் இரத்தத்தில் 20 மி.லி/வி சர்க்கரை பெற்றிருப்பார்கள். • அதிக இரத்த அழுத்தம் என்பது ஒரு தீராத மருத்துவ நிலை. அதில் இரத்த அழுத்தம் 120/80 மி.மி.Hg.க்கு மேல் காணப்படும். இரத்த அழுத்தத்தை கர்பம் தரிக்கும் முன்பே சரிபார்க்க வேண்டும்.		

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		• சிவப்பு இரத்த அணுக்கள் குறைந்து காணப்பட்டாலோ அல்லது இரத்தத்திற்கு நிறம் தரக்கூடிய அணுக்கள் சராசரி அளவிலிருந்து (11.0 – 15.0 கி/dl) குறைந்து காணப்பட்டாலோ, இரத்த சோகை என்பர். இதை இரத்த பரிசோதனை செய்து தெரிந்துக் கொள்ள்ளலாம். • மருத்துவ நிலையில் நாளமில்லா சுரப்பியை பலவீனப்படுத்துவதே நாளமில்லா சுரப்பி நோயாகும். இந்த நோயை நம் இரத்தத்தில் உள்ள நாளமில்லா சுரப்பியை தூண்டும் உட்சுரப்பியை சரி பார்ப்பதால், அடையாளம் கண்டுக் கொள்ளலாம்.		
	சுற்றுப்புற சூழலால் ஏற்படும் ஆபத்துகளை தடுப்பது	**சுற்றுச்சூழலின் ஆபத்துகளை தடுத்தல்:** • வளர்ச்சி குறைவது, உருகுலைவஹ்ம், மூளை வளர்ச்சி குறைவு போன்றவை பிறந்த குழந்தைகளிடம் தவிர்க்க மின் வீட்டு கதிர்கள் படாதபடி தவிர்க்க வேண்டும். மின் வீச்சு கதிர்களை தவிர்க்க கேடயம் போன்ற பொருளை உபயோகிக்க வேண்டும். • பூசிகொல்லி முதலியவற்றை கையாள்வதால் ஏற்படும் பிறப்பில் குறைபாடுகள், நோய் எதிர்ப்பு சக்தி அடங்குதல், இனவிருத்தியில் கோளாறுகள்	ஆராய்ச்சியாளர் சுற்றுப்புற சூழலால் ஏற்படும் ஆபத்துகளை தடுப்பது பற்றி விவரிக்கிறார்.	கவனித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		முதலியவற்றை தவிர்க்க வேண்டும். இதை தவிர்க்க கைக்கவசம், கஞ்சி தெளித்த கால் கவசம், நீண்ட கை பொருந்திய பருத்து மேலாடை, தடுப்பு கண்ணாடிகள் மற்றும் கால் அணிகளை அணீய வேண்டும். • இன விருத்தி கோளாறுகள் மற்றும் பிறப்பு கோளாறுகள் புகைப்பிடிப்பதால் அதிகரிக்கிறது. • குடி பழக்கமானது பிறந்த குழம்தைகளிடையே படிப்பாற்றல், படிப்பில் கவனக்குறைவு போன்ற பிரச்சனைகளை தீர்ப்பதில் சில கஷ்டங்களை ஏற்படுத்துகிறது. • அதிக அளவில் தேநீர் மற்றும் காபி அருந்துவதால் கருச்சிதைவு மற்றும் கருத்தரிப்பில் தாமடம் ஏற்படுகிறது. மேலும் ஒரு நாளைக்கு 200 மி.கி. தேநீர் அல்லது காபி உட்கொள்ளும் பெண்களுக்கு இரும்பு மற்றும் சுண்ணாம்பு சத்து உறிஞ்சும் தன்மைமானது உடலில் குறைக்கிறது.		
	வாழ்க்கை முறை மாறுதல்களை பற்றி விவாதித்தல்	**வாழ்க்கை முறையில் மாறுதல்:** **உணவுச் சத்து:** **போலிக் அமிலம்:** தினந்தோறும் 400 மைக்ரோ கிராம் போலிக் அமிலம் கருதரிப்பதற்கு முன்பும் கருத்தரித்த பின்பும்	ஆராச்சியாளர் வாழ்க்கை முறை மாறுதல்களை பற்றி விவரித்தல்	கவனித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		உட்கொள்ளுவதால் பிறந்த குழந்தைக்கு நரம்பு பாதிப்பு ஏற்படுவது குறைகிறஹ (முழுமையான வளர்ச்சி பெறாத மூளையும் முதுகு தண்டும்) **உணவு வகைகள்:** 1. கீரை வகைகள் 2. பீன்ஸ், பட்டாணி 3. முட்டையின் மஞ்சள் கரு 4. சூரியகாந்தி விதைகள் 5. கல்லீரல் மற்றும் கல்லீரல் சம்பந்தமான பொருள்கள் **சுண்ணாம்பு:** தினமும் 840 மி.கி சிற்றுண்டிக்கு பிறகு உட்கொள்வதால் குழந்தை பிறப்பில் ஏற்படும் கோளாறுகள் மற்றும் குழந்தை இறந்து பிறப்பதைத் தவிர்க்கிறது. சுண்ணாம்பு சத்து எலும்பிற்கும், பற்களுக்கும் சத்து அளிக்கிறது.  **உணவு வகைகள்:** 1. பாலாடை 2. பால் 3. கீரை வகைகள்		

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		4. பலமுள்ள ஆரஞ்சு பழச்சாறு 5. சோயா பீன்ஸ் **இருப்பு சத்து:** தினந்தோறும் 12 - 15 மி.கி இரும்பு சத்து உணவிற்கு பின் உட்கொள்ளுவதால் இரும்பு சத்து குறைவு நீங்கி இரத்த சோகை தவிர்க்கப் படுகிறது. **உணவு வகைகள்:** 1. ஆட்டுக்கறி 2. மீன் 3. கோழிக்கறி 4. மாட்டுக்கறி 5. கல்லீரல் (கோழி) 6. பீன்ஸ் 7. கீரை 8. கிட்னி பீன்ஸ் 9. சோயா பீன்ஸ் **எடை கட்டுப்பாடு:** • தினமும் உட்கொள்ளும் உணவில் போதுமான சத்துகளும், அளவும் - 2200 கி.கலோரியில்		

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		உள்ளதா என்பதை உறுதிப்படுத்த வேண்டும். • அனுகூலமான எடை – 46 – 82 கி.கி. • தினமும் 8 – 10 டம்பளர் தண்ணீர் அருந்த வேண்டும். • திடமான வாழ்க்கைக்கு உடற்பயிற்சி நடத்தல், மாடி ஏறுதல் மேற்கொள்ள வேண்டும். • எண்ணெய் உணவு வகைகளை தவிர்க்கவும். **உடற்பயிற்சி:** உடற்பயிற்சி உடலை நல்ல முறையில் வைத்துக்கொள்ளவும் நோயில்லாமலும் வைத்துக் கொள்ள உதவுகிறது. 1. உடல் வளையக்கூடிய உடற்பயிற்சி a. நீட்சியான உடற்பயிற்சி b. இயக்க வரம்பு உடற்பயிற்சி 2. ஏரோபிக் உடற்பயிற்சி a. மிதிவண்டி ஓட்டுதல் b. நீந்துதல் c. குதித்தல் d. ஓடுதல> 		

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
	நோய் தடுப்பு முறைகளை குறிப்பிடுதல்	**நோய் தடுப்பு முறை:** • டெட்டானஸ் டாக்ஸாய்டு டெட்டானஸ் என்பது க்லோஸ்டிரிடியம் டெட்டானி என்னும் கிருமியினால் நரம்புகளில் ஏற்படும் ஒரு வகை நோய். இந்த எதிர்ப்பு சக்தி மருந்தை 10-16 வயதில் எடுத்துக்கொள்ள வேண்டும் அல்லது கருதரிப்பதற்கு முன் எடுத்துக் கொள்ள வேண்டும். • மனித பாப்பிலோமா வைரஸ் HPV தடுப்பூசி கழுத்தில் வரக்கூடிய புற்று நோயை தடுக்க கொடுக்கப்படுகிறது. அந்த தடுப்பூசி 9-26 வயதில் கொடுக்கப் படவேண்டும்.	ஆராய்ச்சியாளர் நோய் தடுப்பு முறைகளை குறிப்பிடுதல்	கவனித்தல்
	நோய் தொற்றுகளை கண்டறியும் முறைகளை விவரித்தல்	**நோய் தொற்றுகளை கண்டறிதல்:** **இனபெருக்க உறுப்பு தொற்று நோய்:** இனப்பெருக்க உறுப்பு தொற்று என்பது இனபெருக்க மண்டலத்தைப் பார்க்கும் தொற்று என வரையறுக்கப்படுகிறது. பால்வினைத் தொற்றுகள் மற்றும் இதர தொற்றுகள் இதி அடங்கும் **காரணங்கள்:** • பலருடன் உடலுறவு கொள்ளுதல் • பாதுகாப்பற்ற உடலுறவு • சுத்தப்படுத்தாத ஊசி மற்றும் சிரிஞ்சுகளை	ஆராய்ச்சியாளர் நோய் தொற்றுகளை கண்டறியும் முறைகளை விவரித்தல்	கவனித்தல்

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		பயன்படுத்துவது • சரியான பிறப்பு உறுப்பு பராமரிப்பு இல்லாததால் அதாவது மாதவிடாய் நேரங்களில் உபயோகப்படுத்தும் துணிகள் மற்றும் மலம கழித்த பிறகு அப்பகுதிகளை சுத்தமாக வைக்காததால். **அறிகுறிகள்:** • பிறப்புறுப்பில் மஞ்சள் நிற திரவம் வடிவது • சிறுநீர் கழிக்கும் போது எரியும் தன்மை • பிறப்புறுப்பில் அரிப்பு மற்றும் அல்சர் • அடிவயிற்றில் வலி • பிறப்புறுப்புகளில் வலி மற்றும் வலி இல்லாத புண்கள் • மலங்கழிக்கும் போது வலி • மலம் கழிக்கும் உடல்பகுதியில் அரிப்பு • கடுமையான பிறப்புறுப்பில் வரும் வாடை **தடுப்பு முறைகள்:** • திருமணத்திற்கு முன்பு உடலுறவு வைத்துக் கொள்ளாமை. • பாதுக்காப்பற்ற ஊசி மற்றும் சிரி\ஞ்சுகளை		

நேரம்	குறிப்பான நோக்கங்கள்	உள்ளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	கற்போரின் செயல்பாடு
		பகிர்ந்துகொள்ளாதிருத்தல். • பிறப்புறுப்புகளை சுத்தமாக வைத்தல். • உள்ளாடைகளை பயன் படுத்தாதிருத்தல். • பருத்தி உள்ளாடைகளை பயன் படுத்துதல் மேலும் அவற்றை சூரிய ஒளியில் உளர்த்தி பயன்படுத்த வேண்டும். • பிறப்புறுப்பு பகுதிகளில் வளரும் முடியினை வெட்டி வ்டுதல். • மலம் மற்றும் சிறுநீர் கழிக்கும் உடல் பகுதிகளை முன்பிருந்து பின்னாக சுத்தம் செய்தல். • மாதவிடாய் நேரங்களில் சானடரி நாப்கின்களை பயன்படுத்துதல்.		

APPENDIX – L

DISSERTATION EXECUTION PLAN-GANTT CHART

S.NO	ACADEMIC CALENDER MONTHS	MAY 2012 to APRIL 2013												MAY 2013 to APRIL 2014											
		M	J	JU	A	S	O	N	D	J	F	M	A	M	J	JU	A	S	O	N	D	J	F	M	A
A	**Conceptual phase**																								
1	Problem identification																								
2	Literature review																								
3	Clinical fieldwork																								
4	Theoretical framework																								
5	Hypothesis formulation																								
B	**Design & planning phase**																								
6	Research design																								
7	Intervention protocol																								
8	Population specification																								
9	Sampling plan																								
10	Data collection plan																								
11	Ethics procedure																								
12	Finalization of plans																								
C	**Empirical phase**																								
13	Data collection																								
14	Data preparation																								
D	**Analytical phase**																								
15	Data analysis																								
16	Interpretation of results																								
E	**Dissemination phase**																								
17	Presentation or report																								
18	Utilization of findings																								
	Calendar months	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4